THE CULTIVATOR.

TO IMPROVE THE SOIL AND THE MIND.

NEW SERIES. ALBANY, AUGUST, 1851. VOL. VIII.—No. 8.

AGRICULTURE OF OHIO—No. 1.

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HAVING made it a considerable portion of our business during the past two years, to become familiar with the various systems of agriculture practiced in Ohio; and having also obtained a pretty thorough acquaintance with the agricultural resources of the state, by personally visiting some fifty counties; it is with much confidence, we set about the task of preparing a series of practical papers for THE CULTIVATOR, that will furnish to its readers a correct and in every respect reliable account of the present condition of the agriculture of Ohio, as well as a full description of the quality of the soil, its value, and of other facts bearing a close relation to the productive interests of the Buck-Eye State.

Ohio occupies a proud position among her sister states in point of her agricultural resources. She has become celebrated for her wheat, corn, pork and beef; and in fact her soil and climate are sufficiently varied to adapt them for the profitable growth and production of all the grains, seeds, fruits and vegetables, that are necessary to supply the wants of man or beast.

In order that we may be understood, and that the practical farmer may derive some pleasure and profit whilst perusing the facts and deductions that we shall have occasion to glean from the wide-spread book of nature and of art we see in our mind's eye spread before us, whilst occupying, as nearly as possible, a central position in this great and progressive agricultural state, we shall for convenience sake, both for the writer and reader, divide and subdivide our varied subjects under appropriate heads, as may from time to time be thought necessary for the full discussion and elucidation of the interesting theme selected for illustration.

THE CULTURE AND MANAGEMENT OF THE WHEAT CROP.—The state of Ohio produced the past year at a low estimate, 35,000,000 bushels of wheat, of which at least 20,000,000 will be a surplus. This probably is the largest yield that has ever been produced in this or any other state or country, of the same area, in a single year. The wheat lands proper of Ohio are limited somewhat in extent, but more or less of this crop is cultivated in every county of the state. Systems of culture that find favor in one region of the country, could with difficulty be introduced in others; and hence the necessity of going pretty fully into detail, for the purpose of pointing out the various modes of culture practiced, with the comparative results both as it regards the crop and the effects produced on the soil. The counties most celebrated for the production of wheat are Knox, Licking, Richland, Ashland, Wayne, Stark, Muskingum, Fairfield and Belmont. These counties produced the past season in the aggregate at least 10,000,000, of which Stark and Wayne yielded each 1,250,000 bushels. The average product per acre throughout those counties may be rated at 20 bushels; some favorable townships at 25 bushels, not a few highly cultivated sections or neighborhoods at 30 bushels; and in very many cases individual farms averaged each a yield of 40 bushels per acre. The wheat counties in the main embrace a region of country that is located on the dividing ridge that separates the waters flowing into Lake Erie and the Ohio river. About one-half of this region may be nominated hilly, and the balance rich valleys, and table lands. But a very small portion is too hilly for the profitable cultivation of the cereal grains; and the valleys are generally sufficiently dry for the growth of wheat. The value of the valley land ranges from $30 to $40 per acre; the moderately hilly and undulating at from $20 to $30; and the high table lands at from $15 to $20 per acre. In favorable seasons, the valleys produce the largest yield per acre, and in seasons like the past, from 35 to 40 bushels per acre was harvested on the rich corn lands, with no other cultivation than what was given in the management of the corn crop.

The best and most certain land for wheat is the high rolling up-land, covered with a thick growth of oak timber. This is the prevailing timber of the most valuable wheat land in Ohio; though such a description of soil as abounds in an oak country requires a very different system of management from soils that were originally covered with a thick growth of sugar maple, elm, black walnut, and cherry. The latter, for all other description of crops except wheat, is the most valuable, and even for the latter crop, if it were not for the influence of rust, would produce a much greater average yield than the thinner description of soils, such as prevail where oak is the principal timber. Timber of the varieties enumerated is very abundant on the valleys bordering the streams, and the quality of the soil, and its value, may be pretty accurately ascertained by obtaining a knowledge of the timber grown upon it. The original rocks of the country as well as its general geological formation have of course something to do with the character of the soils; but as a general thing, unmistakeable evidences are afforded of the quality and value of the soil by the prevailing timber with which it was originally

covered. This fact is here mentioned, so that the reader will readily comprehend what is meant, when allusion is made to systems of agriculture that are pursued on different soils, being indicated by the character and quality of the timber which prevail in the region of country under consideration.

System of Culture practiced on thin Oak-land.—The cultivation of clover as a preparative crop for wheat, is more generally practiced on the oak lands, such as abound in Richland, Ashland, Wayne and Stark counties, than in any other portion of Ohio. In these and a few adjoining counties, the system of making naked summer fallows prevails very generally; and indeed but very little wheat is sown in any other way, by those who make it a point to make their wheat crop their main dependance. The summer fallow is usually made on a two year old clover sod. It is rarely broken up before the 1st of July, and after which it is allowed to remain almost untouched until the first week of September, when it is again plowed, usually lengthwise of the first furrow, to be sown for wheat. The seed is then covered either with a harrow, cultivator, or shovel plow, and in some rare cases with a drilling machine, which completes the whole process. The white varieties of wheat are the most popular, and hence the farmers in this region obtain higher prices for their wheat than those who sow the thick and dark bran varieties. The quality of the wheat for flouring purposes, grown in the most celebrated wheat counties, is equal to that produced in the country bordering the Genesee valley. Nothing in fact can excel it; but unfortunately for the character of this wheat, it becomes mixed in too many cases by either careless or interested purchasers, which detracts from its value by the time it gets into the eastern market, from 10 to 12½ cents per bushel. A common practice among the Buffalo jobbers, who deal largely in western wheat, is to take Ohio white wheat, weighing from 60 to 66 lbs. per bushel, and mix it in nearly equal proportions with Illinois or other northwestern spring wheat; the whole of which is sold to the miller at an advanced price on the value of the spring wheat, but in reality the real worth and character of the superior article are very considerably deteriorated. This practice is often done by the local purchaser in order to reduce the cash value of the white wheat down to the same standard that is paid for the common coarse varieties. By this practice the grower sustains a loss of some 10 cents per bushel, besides the general character of both the wheat and flour of the country is damaged in the eyes of the eastern export merchants.

In some cases, the whole of the manure made on the farm is spread upon the clover sod just before it is broken up; and where the soil is naturally thin in vegetable matter, this practice, in connection with turning under a heavy growth of clover, is found to increase the quantity of straw and the yield of wheat, to an extent that richly repays for the labor and expense attendant upon that course. The growth of clover appears so natural to the soil, that as yet but little attention has been paid to the application of artificial manures to the young clover crops; but in seasons of extreme drouth especially, an expenditure of a few shillings per acre, in the purchase of gypsum for this crop, would be instrumental in giving a uniform heavy growth, where without such agency, only a stunted and unprofitable product would be realized. This is being understood by a few enlightened farmers; and occasionally instances may be met with, where the advantage resulting from the use of gypsum is acknowledged and appreciated; but strange as it may appear to those who have seen the wonderful results produced by the extensive use of this powerful fertilizer in central New-York and elsewhere, only now and then a farmer in Ohio seems to have any correct notion of its properties, and the powerful fertilizing influences effected on all broad leaved plants.

Within the past three or four years the very rational opinion has gained ground, that under a careful system of rotation of crops, the plan of making naked fallows may be dispensed with altogether. This system however is only adapted for certain descriptions of soils, and it is questionable whether it is susceptible of universal adoption, even under the most careful mode of management. The course at present pursued, and the one alluded to, consists of plowing under a pretty heavy growth of clover, about the middle of August. It is then allowed to remain undisturbed until about the 10th or 15th of September, when the seed is sown and covered, either with a steel tooth cultivator or shovel plow. The opinion is fast gaining ground by farmers who have fully tested the system on a large scale, that a much larger yield of wheat per acre may be had from a single furrow, than if the land had been plowed two or more times, and brought to the highest possible state of tilth by an expensive process of frequent plowing. It is very obvious that if the land be in a high state of cultivation when seeded down with clover, and only one crop of clover hay, or a season's pasturage be taken from it, before it be broken up, that the soil must be improved in tilth, rather than otherwise by being seeded with clover. Clover, like all broad-leaved plants, obtains a large proportion of its food from the atmosphere; and being a smothering crop to a much greater extent than any other field crop, the inert vegetable ingredients in the soil, as well as its inorganic properties undergo a mechanical change which eminently prepares it for the succeeding crops, especially those of cereal plants. These considerations in connection with the salutary influence that the millions of large tap-roots have in percolating the ground so as to admit the air into the heart of the active soil by which the floating gases in the atmosphere, produced from decayed vegetable and animal substances, increase the fertilizing properties of the soil, which in connection with the large amount of vegetable manure of a suitable character for the wheat plants that is produced from the roots of the clover, are conclusive evidences, to the mind of any scientific farmer who will take the trouble to investigate the subject, in favor of the system of plowing only one furrow for wheat, where the soil and its previous preparation are of the description here alluded to. To what extent this cheap plan of growing wheat may be extended is difficult as yet to determine, but it is quite certain that extraordinary yields are produced by this method throughout many portions of the best wheat growing counties in Ohio, and when the value of the clover crop for hay or pasturage is taken into account, it brings the cost of producing wheat to a mere

nominal standard when compared with the expensive process of making a naked summer fallow as is usually done in New-York and Pennsylvania. Those farmers who have adopted the system alluded to, find no difficulty in getting an average crop of 30 bushels of marketable wheat per acre; and the crop is less liable to rust than by any other system yet practiced. Besides all this, it enables the grower to sell at a remunerative profit, when to others the price of wheat in the markets might be ruinously low. Before closing this branch of the subject it is proper to remark, that the farmers in Ohio are not troubled with wild mustard, Canada thistle, nor wire grass, or in fact any other difficult class of weeds, that so much perplex eastern farmers; and on this account one plowing does the land as much good in preparing it for crops, as two plowings would do in any of the eastern states of the Union, and hence it is only in suitable cases that so cheap a plan could be successfully adopted in the growth of wheat.

In some instances wheat is made to follow the oat crop, in which case the latter succeeds a crop of corn, which if well cultivated leaves the ground in a good condition for oats. Where this plan finds favor, only one plowing is given for the wheat crop, and if the land be tolerably rich, the average product generally equals about twenty-five bushels per acre in favorable seasons. Whilst the land is new and rich, this barbarous system might with some excuse be perpetrated, but, although it may afford a greater immediate return, than those in which green crops are made to alternate with yellow crops, yet in the end it will positively exhaust the soil of its fertilizing properties, and lessen its value quite equal, if not to a greater extent, than if a more rational system of culture had been practiced. A still worse practice than this is adopted by some, who fancy they have some claim to the appellation of scientific farmers. Allusion is now made of sowing wheat after wheat, for a succession of years, by simply allowing occasionally a crop of corn to intervene. The past season thousands of acres were sown in this way, and at the present time, (the 1st of June) a finer prospect for a full average crop could not be desired. On the 1st of July last whilst passing through the wheat belt of Ohio, the farmers were busily occupied in harvesting the finest crop of wheat, that was ever produced in any portion of the Union, a very large portion of which averaged from 25 to 40 bushels per acre; and now whilst passing over the same ground the same broad acres in many cases are covered with the same description of grain, which to all appearance will be equally productive. If such favorable results are obtained by a small outlay of labor and skill, why not continue the practice? In reply, we argue that in rare cases it may be done with impunity for a series of years, but in the main it is carrying out the principle laid down in one of Æsop's fables, in which to satiate avarice, the goose was killed that laid the golden egg. The vegetable is like the animal kingdom, governed by certain unerring laws, and when those are violated, disappointment and suffering must necessarily follow. All vegetable plants require certain organic and inorganic ingredients, to promote and perfect their growth. If the soil contain a very large supply of the requisite food for certain plants, provided it be kept in a proper tilth for those plants, there is no good reason why precisely the same description of crops should not be made to succeed each other for a succession of years, on the same soil. This however is a nice point to ascertain, and as a general thing it is dangerous to adopt it, and in fact we would not encourage its practice under any circumstance, believing that in the end it would be better to pursue a regular course of rotation of crops, allowing wheat, even on the very best wheat soils, to grow on the same land only once in three or four years.

The foregoing is the practice in the counties mentioned, as well as in favorable sections for wheat in other portions of the state. In the southern, central and western range of counties, the almost universal practice is to sow wheat after the corn crop, or with it before it is harvested. Naked fallows are rarely if ever made in the corn and grazing regions of Ohio. On this account a much more slovenly practice of managing the wheat crop prevails where corn and grass are the main dependance of the farmer, than where wheat forms the principal staple. Honorable exceptions, however, are made to this rule in every county and neighborhood of the state, and on the whole it may in fairness to the Ohio farmers be added, that as a class they are anxious to adopt the most approved system of culture, when their merits are fairly brought under their notice.

The past harvest, throughout the whole of the corn growing counties of Ohio, the samples of wheat, whether sown early or late, in good condition or bad, were uniformly heavy and fair; and in many cases the yield was abundant, even when sown after corn, oats and all the other varieties of grain, as late as the last week in November. On the whole, however, those who took pains in preparing the land for the crop, obtained a much larger product than their more slovenly neighbors; and besides it was in better condition for succeeding crops than if a small amount of labor had been expended in preparing the soil for the preceding one. But it is evident, that so long as the fertility of the soil is such, as to secure a heavy crop, with a small expenditure of labor, that only a few can be pursuaded that it will pay cost to adopt more expensive systems of culture. These influences and others of a like character, prevent to a great extent, the adoption of systems of farm management, that in other counties would be considered essential to success. This fact is here mentioned to show that a superficial observer from other counties, passing through Ohio, might err materially in judgment, whilst condemning much of the farming he saw practiced. Much, that at first sight appears objectionable, upon a close examination, is the best that could have been adopted. But nevertheless in many important particulars their is room for improvement, and owing to the mixed character of her people, and the great inducements that are held out for the adoption of every real improvement in the cultivation of the soil, the inference may be fairly made that the Buck-Eye state will not lag behind her sister states in any particular, in engrafting upon her systems of agriculture the improvements of other countries, that would be found applicable for her soil and climate.

It should have been mentioned that in sowing wheat among corn, a practice is obtaining favor, which on level

or table land especially, deserves at least a passing notice. The corn is planted in rows about four feet apart, and the hills two feet asunder in the rows, which is worked from three to four times between the rows with a corn plow and cultivator; and from the middle of August to the 10th of September, it is sown with wheat and plowed in, forming neat little ridges four feet from furrow to furrow, which thoroughly carries off from the surface any redundancy of water that might be prejudicial to the wheat crop during the winter and spring months. The corn is not usually cut up till November, and the wheat by being sown early, gets deeply rooted, and the ground becomes thoroughly covered and matted with the plants before the setting in of winter.

The remarks on the subject of wheat culture in Ohio might have been much enlarged, but sufficient has been said to afford the general reader some idea of the most popular modes of culture adopted in this great wheat growing state.

In the next number of The Cultivator, the cultivation and management of the corn crop in Ohio, will form the basis for a few remarks from the pen of the writer of this communication. *Mt. Vernon, Ohio.*

A Sketch of the late Judge Hays.

Editors of the Cultivator—The true republican gentleman, the sound lawyer, the distinguished farmer of South Berwick, Me.,—Hon. William A. Hayes—is no more. We may well mourn his death. Throughout a long life-time, he was a zealous, constant, and efficient contributor to the advancement of the Agriculture of his country. But his bright example lives; and from such a life an influence for good goes forth, mysteriously but surely extending itself, far beyond the limits of a district, or the life-time of a generation. I would in some humble measure aid the progress of that influence; and I now present your readers with a brief sketch of the life and doings of our departed friend.

William Allen Hayes was the youngest of three brothers, children of David Hayes, and was born at North Yarmouth, Oct. 20, 1783. At the early age of nine years, death deprived him of the watchful solicitudes of a mother; and in three years after, of the protection and counsels of a father. The three orphan brothers, the eldest then but fifteen, continued at home, keeping house together without assistant or domestic, William working on the farm in summer, and attending the district school in winter, until, at the age of fifteen, he was invited to become the teacher of that same village school. Having now determined to obtain an education, he commenced a preparation for college under the tuition of Rev. Mr. Anderson, the minister of his native town, amid the labors of the farm in summer, and of school-teaching in winter. In the year 1801, at the age of seveenteen, he disposed of his slender patrimony to his two brothers, and with the avails,—far too small to obtain him an education,—he entered Dartmouth college. He struggled along through his collegiate course, partly paying his way and incurring a debt for the deficiency, to be paid in after life. Devoting himself to study with earnest application, he graduated with the highest honors of a class, numbering among its members, Rev. Francis Brown, D. D., afterwards President of Dartmouth College, Rev. Dr. Osgood, an eminent divine of Springfield, Mass., Dr. Wilson, "one of the finest scholars in New-Hampshire," and Rev. Henry Colman, the distinguished writer upon agriculture.

It is gratifying to contemplate the onward and upward course of our poor orphan boy. Early thrown upon a world where good and evil are strangely commingled, he chose the good; the obstacles that met him in his progress forwards he either cast out of the way, or mounted over; a stern discipline habituated him to that persevering industry, that choice and pursuit of virtuous noble ends, that reliance upon personal effort, that decision of character, which, attending him through life, ensured personal success, enabled him to occupy a wide space of usefulness to others, gave constantly increasing value to the progress of that life, and dignity to its close. What a lesson have we here upon the subject of unintermitted personal effort.

Mr. Hayes, upon leaving college, accepted the appointment of Preceptor of Moor's Indian school at Hanover, a classical institution connected with the college. Relinquishing this position at the end of one year, he commenced the study of law, under the instruction of the Hon. E. Whitman, at New Gloucester. In a few months after, he entered the office of Dudley Hubbard, Esq , of Berwick, and after remaining there two years, went to Charlestown, Mass., finishing his studies there under the instruction of Hon. Artemas Ward, afterwards a chief justice of the Common Pleas.

In 1809, Mr. Hayes was admitted to the bar, and entered at once into practice at South Berwick. He soon attained notoriety in his profession, and continued in a laborious and distinguished career for over forty years. Notwithstanding the varied and constant demands of a business larger than that of any other lawyer in the county, or perhaps in the State, he yet found time to engage in various public and benevolent labors. He was for twenty-five years President of the York County Bar, and was one of the founders and the constant generous patron of the Law Library Association connected with that Bar; for about the same time he was President of Berwick Academy, a Classical Institution, which he was instrumental in founding, and towards which, with then very limited means, he subscribed $500; for twenty years he was judge of Probate for York county, in which capacity he is said to have had no superior. He held the office of a Trustee of Bowdoin College for several years, and was one of a board of visitors and examination at the Military School at West Point. He engaged in various other public labors with ability and usefulness, performed numberless acts of private benevolence, and was a marked character in society every way.

As a man of business, Judge Hayes possessed rare qualities. His views were far reaching and comprehensive; he was endowed with superlative good sense, and with sound judgment; his legal learning was solid; he was untiring in industry, and systematic in arrangement of affairs; he had sagacity to penetrate his subject, and power to reduce it to its plainest principles; and by a remarkably simple, direct and decisive manner of reasoning, forcibly impressed his ideas upon the minds of others.

Education found in him a powerful advocate, and fast friend. Having experienced its benefits, he endeavored to inspire all within his reach with a love for sound learning. One of his highest solicitudes for his children was that they should be well educated, as a principal and efficient means of personal respectability and permanent usefulness. He considered no effort too great for him to put forth on behalf of the intellectual culture of his family. Upon the education of twelve children, he expended, of the hard earnings of an industrious energetic life, the sum of $50,000, thus laying them under lasting obligations to use well the advantages so kind a father had procured them, at such cost. His efforts did not end with his own family. He delighted in encouraging poor deserving young men in a course of study, and helped many by communications from his own large experience, and by loans of money. As President of Berwick Academy, he was constantly watchful for its prosperity,—so managing its funds as to make them increase a thousand dollars in his hands,—was solicitous of the welfare of all who came within its walls, personally examined the qualifications of its various teachers and of the successive classes of scholars about departing to higher seminaries, always imparting to them wise counsels and kind encouragement.

Our friend was a great lover of *the useful*, and taught his family to love and seek the same. He was untiring in his efforts to impress the minds of his children with the importance of setting before themselves virtuous useful ends, and of bending every faculty to their attainment; telling them that in the path of duty,—that in duty performed,—they must alone expect that measure of happiness this life can give, and felicity hereafter. It was a favorite maxim, often repeated by him, that "*Doing* makes the man." He would say that *doing*—making earnest effort—strengthens the judgment, enlarges all the faculties,—that wisdom may increase by effort, as well as muscular activity. Another maxim, derived from Solomon, he frequently rehearsed to his sons, with great emphasis: "Seest thou a man diligent in business? He shall stand before kings; he shall not stand before *mean men*." How much of the true patriot, as well as the wise father, was exhibited in the domestic life of our departed friend! Surely there can be no safe-guard to the institutions of our country, at all comparable with such family training. He constantly held up the idea to his children that their future usefulness and success depended upon themselves,—that their characters and standing in life were entirely at their own disposal. He taught them by precept, and also by his own shining example, that education does not end with youth, but is rather the business of a life-time,—that they must be always learning, always seeking for and storing up knowledge, always turning it to useful, practical account. A great writer well remarks,—and we here find a practical illustration of his remarks—"that judicious education anxiously displays to its pupils its own insufficiency and confined scope, and tells them that this whole earth can be but a place of tuition, till it become either a depopulated ruin, or an elysium of perfect and happy beings. Its object is to qualify them for entering with advantage into the greater school where the whole of life is to be spent, and its last emphatic lesson is to enforce the necessity of an even watchful discipline, which must be imposed by each individual *self*, when exempted from all external authority. The privileges, the hazards, and the accountableness of this maturity of life, and the consignment to one's self, make it an interesting situation. It is to be entrusted with the care of a being infinitely dear, whose destiny is yet unknown, whose faculties are not fully expanded, whose interests we but dimly ascertain, whose happiness we may throw away, and whose animation we had rather indulge to revel than train to labor. * * * Everything is education; the trains of thought we are indulging this hour; the society in which we shall spend the evening; the conversations, walks, and incidents of to-morrow. And so it ought to be; we may thank the world for its infinite means of impression and excitement, which keep our faculties awake and in action, while it is *our* important office to preside over that action, and guide it to some divine result."

A lasting monument of Judge Hayes's usefulness may be found in his life as a farmer. He had been settled in the practice of law but a few years, when he purchased 160 acres of land situated a little out from the village, moved immediately upon it, and there reared his family. It is one of the oldest settled tracts of land in that part of Maine; and at the time of his purchase, it was thoroughly worn out, and turned mostly to pasturage. He determined to make it gradually more productive, by steady, but at no time extravagant investments of capital,—a principal and favorite idea with him being to set an example in farming that any man of moderate means and some enterprise might follow with safety and advantage. He once remarked to me, that after his means became ample, he often felt a temptation stealing over him to enter largely into investments for the improvement of his estate; but he had permitted his original idea to prevail, and the farming had not been suffered to run in debt to him. He was a pioneer in his state in what is denominated The New Husbandry,—in the making of compost manures, the systematic rotation of crops, the introduction of improved implements and farm-stock, in reclaiming wild wet land, and in restoring fertility to old worn-out land. He was in the habit of devoting the early hours of day to the farm; and this not only extended his sphere of usefulness, it also added length of life, and enabled him to bring freshness of mind and a robust body to the discharge of professional and other duties. In advanced life, he found high enjoyment and grateful recreation, in surveying the improvements that had been progressing for a life-time, and in carrying those improvements forward to a completion. He went forth to the fields, armed with all the theories of agriculture; and so far as science has yet been able to explain, he could explain the principles by which nature operates; which, added to his own keen perception, and a scrutinizing observation which saw everything, fitted him to be, what he was, a model farmer. Anybody—no matter who—could learn something in a day spent with Judge Hayes upon his farm.

Thoroughness, systematic arrangement, and an adaptation of one thing to another, were characteristics of our friend's farming. He would do things thoroughly on the score of economy, if for no other reason, and in all ex-

penditures for improvements, he looked forward to a course of years, rather than at one day or year. When a few years ago it became necessary to provide more space for the storage of the increasing crops, he erected an immense barn, placing it upon a southern slope, in order to gain warm cellars underneath it for manure and for the root-crops, and warm yards for the stock. The portion of the barn over the cellars was founded upon heavy granite posts, and the remainder upon granite walls. So also in building a grain barn, a sloping site was chosen, in order to obtain a ground story for the storage, without confusion, of carts and all sorts of implements. Here they might always be found, when not in actual use, and of a quality and variety adapted in the best manner to lighten labor, work the ground efficiently, and harvest the crops. A farm-road was early laid out and fenced through the premises, dividing them about midway. At the entrances to the lots on either side from this road, where too many farmers would have placed unwieldly bars, consuming time in their removal, and liable to be often out of order, Judges Hayes hung substantial gates with heavy iron hinges, upon granite posts, and there they have swung for years, without trouble or expense, monuments of economical management. In this strain I might enumerate many other things.

Our friend displayed benevolence as well as calculation in the care of farm-stock. It was his constant study to make domestic animals as comfortable as possible, at all seasons of the year; in summer by good pasturage, convenient shade, and an abundance of pure running water—in winter by stated clock time for feeding,—with a rule that each animal should have enough to eat but waste nothing,—by warm, roomy, well-littered stables with comfortable tie-ups, by warm yards and sheds with pure water in them. The piggery planned by him is not excelled by any in the country, for adaptation to the making of compost, for comfortable cleanly eating and sleeping apartments, for convenience of feeding and for cooking and storing food for the swine family.

Judge Hayes considered the making of manure as *the* business of primary importance, in New-England farming; and that anything which would contribute to that purpose, was not beneath his attention. His industry and care in gathering materials for the compost-heap hardly had a parallel. Bushes of one years' growth, ferns and coarse grasses left by the cattle in the pastures, the wild-grasses of the unreclaimed lowlands, potatoe-vines, leaves from the forest, refuse straw,—in short, all kinds of refuse vegetable substances on or about the farm, were gathered up and taken to the stables and yards, for litter and for manure. From a swamp near by, several hundred loads of muck were annually carted to the barn-cellar and yards, and to the piggery-yards. By this constant vigilance and industry in collecting materials, the annual accumulation of manure was very large, and of course the fields were constantly advancing in productiveness. Indeed it was no part of his farming to allow the land to deteriorate, or even to stand still,—every thing must move onward to a higher condition. Many young farmers, applying to Judge Hayes for advice, were shown how they might three and four-fold their manure heap, and thus improve their land, and enrich their pockets.

The arable lands were put under a regular systematic rotation of crops. The first year of each rotation the land was manured with ten cords of compost to the acre, the sward was nicely turned under by the plow, and some kind of a hoed-crop raised, with clean cultivation. The next year grain and grass-seeds were sown and harrowed in, without disturbing the decomposing sod underneath, and a grain crop harvested. For about four years after, the land produced hay. By this course, together with a steady progress in reclaiming waste wet land, our friend lived to realise an annual crop of over 100 tons of nice hay, from a farm, which, at the outset, only produced forage enough for the wintering of six cattle and one horse.

The farm extends over a high swell of land, of a sandy and gravelly soil, with low-lands of clay soil on one side, and of peaty soil on the other side. Very satisfactory results were derived from the admixture of these soils. Something was done each year at this business, at times when the teams had leisure for it. Many dry knolls have been permanently changed for the better by a covering of clay, and so have the low-lands been improved by a covering of sand and gravel.

Probably no man began earlier, or has done more to improve his pastures, than did Judge Hayes. Some of the lots have been alternately in pasture and tillage, with favorable results. Others have been exclusively devoted to pasturage, and more than doubled in produce by plowing the sward under once in six or seven years, and re-seeding to grass—sowing winter-rye at the same time, to be fed off by the stock while the young grass got root. The quality of the herbage of the pastures has been greatly improved, as well as the quantity increased. On spots where wild plants originally flourished, good sweet grasses have been brought in to take their place.

Judge Hayes exhibited a good specimen of farming upon his reclaimed wet land. A bog-meadow of some 60 acres, in its natural state a wild morass, covered with bushes and worthless herbage, was gradually converted into a beautiful green meadow, producing fine crops of herds-grass and red-top hay. With his ample capital, the work of reclaiming this tract of land might have been completed years ago, and had he consulted himself only, it would have been done; but he determined in the out-set to show a piece of farming here that men of less means might imitate. By a singular coincidence, the last piece of waste land was prepared for producing grass the last year of his life. It was his annual custom to ditch and drain a strip of two rods wide, extending across the meadow, and containing three to four acres; clear it of bushes, hassocks and other rubbish; when frozen on the surface cover it one to two inches thick with fine gravel; manure it, and on a late snow in spring, seed it with herds-grass and red-top. It would produce fine crops of hay for some six years, and then, wild stuff coming in, it was plowed, manured, and re-seeded, and so on with all the reclaimed land. Here is a piece of husbandry that ought to be imitated by hundreds of farmers owning such kind of land.

Our friend planted an orchard of fifteen acres, lying upon a southeastern slope; the trees are now in fine bearing condition, and produce all the choice varieties

of the apple which are adapted to the soil and climate. Various other kinds of fruit received due attention. A spacious garden supplied a great varity of table luxuries, and the beautiful flowers found space to grow and luxuriate. Home must be made attractive to his family, and therefore the flowers were carefully nurtured.

But Judge Hayes has gone to his rest. For the last two years of his life he had been sensible of the progress of a fatal disease of the heart, and he prepared himself for the will of Providence. In a conversation with him a year ago, he remarked to me that he desired to be sensible of the many blessings conferred upon him; that he had lived to a good age; had been permitted to see a numerous family mostly grown up around him, and entering with respect, ability and promise, upon their several callings in life, and that he now resigned himself to the will of his God. He expired suddenly, but with calmness and dignity, on the 15th day of April last, aged 67 years. His family derive consolation, as well as a lesson of instruction, from a remembrance of the unruffled cheerfulness and calm dignified-resignation exhibited by him, in view of his approaching dissolution.

In penning this brief Sketch, ambitious language, emblazoning the character of our deceased friend, has not seemed to me at all necessary; a plain rehearsal of his deeds, is a high eulogy. Permit me to express the desire that it may be the glory and blessing of our country to possess many men, scattered all over its surface, showing characteristics like those exhibited in the life of the late William A. Hayes. F. Holbrook. *Brattleboro, June* 3, 1851.

County Agricultural Institutes.

Eds. Cultivator—There is an important question now loudly demanding an answer from our farming community, from the political economist, and the man of science—What can be done to promote scientific Agriculture? It seems a trite thing to advocate the importance of reform in our practice, and the utility of science as the means of reform. Such advocacy is daily becoming less needed. Much interest has been excited in the matter. Schools are going into operation. Colleges are equipping with agricultural professors. Even the Legislatures of the states and the General Government have been brought to consider the subject. Much has been said, but very little is yet accomplished. All the existing means of education exercise but an exceedingly trifling comparative effect upon our agriculture. Single farms are models, but no district of several thousand inhabitants can be found uniformly presenting an enlightened system of husbandry.

The State Agricultural Schools that are contemplated, promise much to the farmer, and if they are carried into effect with liberal endowment, and an efficient corps of instructors. they will accomplish many things that no other kind of institution can do so well. They will afford greater facilities for experimental agriculture; for testing the inductions of theory, by trials made under competent direction; for advancing mechanical agriculture,—the processes of farming, and for improving the breeds of live-stock. They ought, also, to provide men and means for striking out into the path of discovery, for increasing as well as diffusing knowledge. But we cannot wait for legislative action. Legislatures have too much inertia, are too unwieldy to lead in improvement; smaller bodies, smaller constituencies, must do a present work. It may not be so grand, but it can be more timely. I beg to propose, somewhat in detal, a plan of easy execution, which, though in some respects inferior to government establishments, nevertheless possesses advantages which the latter can never hope to offer. A plan, I imagine, the most republican and effectual that can be adopted, and one beyond the reach of political rapacity. It possesses the merit of having been tested and pronounced good; at least many of its features are characteristic of the Highland and Agricultural Society of Scotland, and the Royal Agricultural Society of England.

Let each county society, if extensive enough, or several if otherwise, re-organise, adopting Agricultural Education rather than cattle shows and fairs, as their immediate object; not setting aside the latter, but giving them their proper subordinate rank. The society should number several thousand members; two thousand would be sufficient for successful operations. The officers should consist of a president, vice-president, board of directors, six or eight in number, annually elected, and, according to the amount of funds, one or more professors of agricultural science, with whom might be lodged the duties of secretary and treasurer, or these offices might be designated to another person. The society should possess a legal incorporation as a Scientific Institution, which would enable them to import books, apparatus, &c., duty free.

The money requisite for accomplishing the great object, Agricultural Advancement, is to be furnished by an annual assessment on each member, of one or more dollars, as shall be definitely provided for in the constitution. The disposition of the funds to be controlled by the board of directors. It would be highly advantageous to organise such societies immediately, holding the income for several years, in anticipation of such measures as are about to be proposed.

When funds have been accumulated, an Agricultural Institute may be established—a commodious two-story, fire-proof building, adapted to contain rooms for society, hall or lecture room, library, cabinet, offices, and chemical laboratory. I shall notice these departments successively.

The lower story of the building may be mostly occupied with the Society's Hall. It should be large enough to seat several hundred people, and should be fitted up in the best style for a lecture room. It should communicate with the laboratory near the lecture table, be provided also with shelves and cases for apparatus and specimens, and with the furniture necessary to illustrate scientific agriculture. If the Institute is located near an academy or similar educational establishment, it would be proper that provision be made for the annual delivery of a thorough course of lectures on agricultural science, which should be *free to all.*

The room above this would accommodate the library and cabinet. For the library an annual appropriation should be made in addition to a liberal sum devoted at first to the purchase of the existing standard works.

This library should include books belonging to all those departments of science that affect agriculture. The practice of husbandry and gardening in all their branches, including the works of Young, Sinclair, Loudon, Stephens, Johnston, Thaer, Colman, Downing, Thomas, &c. &c. Works illustrating the condition of agriculture in foreign countries—voyages and travels, as the narrative of the U. S. exploring expedition, &c. In chemistry the writings of Berzelius, Gmelin, Liebig, Sprengel, Knapp, Johnston, Norton, &c. The works of Torrey, Gray, Darlington, Eaton, Sprague, Lindley, Hooker, &c., in botany; Lyell, Agassiz, Hitchcock, Mantell, Miller, and the various state geologists, should be represented in their most important productions; Dana, Beck and Alger, in mineralogy; Kollar, Harris, Kirby and Spence, in entomology.

The Natural History of New-York; Transactions of State Agricultural Societies; Journals, including all agricultural periodicals of the United States. Silliman's Journal, Journal of the Royal Agricultural Society of England, Journal of the Highland and Agricultural Society of Scotland, and the more important Chemical and Scientific Journals of Europe, should be found in this Farmer's Library. The cabinet should contain specimens of useful vegetable productions and articles derived therefrom—native and foreign, as seeds, roots, fruits, prepared articles of food, a complete herbarium of native and cultivated plants, special collections of grains, grasses, noxious weeds, &c. Certain animal productions as wool, woolen cloths, skeletons and preparations illustrating animal anatomy and physiology; collections of small animals and insects injurious or useful to the farmer; specimens of soils, marls, clays, peat, plaster, &c.; illustrations of general and special geology and mineralogy; collections of various fertilizers; models of implements, &c., with whatever, of an industrial nature, may be interesting to the farmer.

The Laboratory—the most important of these departments—should consist of several rooms of moderate dimensions, and might very appropriately occupy a high, one-story wing, erected on the end of the main building. It should be fitted up for analytical purposes, with a proper arrangement of furnaces. Shelves, drawers, tables, an unfailing supply of water, and the usual complement of balances, glass, porcelain and platina apparatus, with chemicals, &c.; in short, every convenience for prosecuting chemical research. It should be furnished under the direction of a competent chemist.

The expense of such an establishment would vary with the situation, the size and equipment of the building. It is probable that an expenditure of two thousand dollars, would erect a building, and furnish a laboratory sufficient for the incipient operations of such society. Though much might be advantageously appropriated in furnishing the library and cabinet, they need not at first be put in a state of forwardness. As soon as sufficient means have accumulated, the building should be erected, the lecture room and laboratory furnished, and the other departments filled afterwards by the annual income.

These equipments being provided, it remains to put them into the hands of a competent person, under whose directions they shall work out results beneficial to the society—results commensurate with the expenditure of means and the greatness of the object to be accomplished. Very much depends on the person who is appointed to control the laboratory,—the *chemist* of the society. He is to be the chief means of the society's usefulness. His intellect and labors are to give tone and consideration to the establishment. The society may possess an ample building, a perfect laboratory, a complete library and fine collections; it may furnish abundant funds and exhibit sufficient signs of prosperity, but if it employs a take-it-easy, behind-the-times sort of a man, it might as well dig for coal in New-York as anticipate any good.

A Man is wanted, one who unites the requisite of the philosopher and the man of business; a man of energy, activity, of profound knowledge in the natural sciences, skilled in the processes of scientific research, of original investigating habits of thought; one who can project and accomplish discoveries; who can increase the means and compass the ends of philosopic inquiry. He should be educated under the most accomplished masters of this and the old world, from those whom the voice of nations has pronounced worthy to judge. He should withal be versed in the practical operations of husbandry, and possess an extensive fund of knowledge in all that relates to the empirical part of agriculture, that he may be able to elucidate and elevate it by science. He should possess the qualities of a good public speaker,—fluency in speech, clearness in explanation, attractiveness in manner; and to crown all his accomplishments, he should ardently love his mission—would it be other than a divine one?—literally "making the desert bud and blossom like the rose."

Could the services of such a man be secured for the society, and he be liberally furnished with the means of investigation, the resulting advantages could be scarcely overrated. His labors would be worth thousands of dollars annually, to the society, in a pecuniary way, while the intellectual waking up that he must necessarily cause, would be attended with blessings which eternity only can estimate. There are certain manufacturing establishments in our country, that pay competent men $2,500 annual salary, and even more, and make money out of them at that. Science is susceptible of as valuable applications to agriculture, as to any other art, and is there any manufacturing company that has so much capital invested, or so great interests at stake, as the farmers of one of our large counties?

But with our full equipment of means, and the secured serviees of an accomplished man of science, it may be asked, what shall be done? The general statement that science is to be applied to agriculture, is not sufficient. We want something definite. Let us be informed the details of a plan. I may, however, partially satisfy a proper curiosity in pointing out some of the most obvious paths of pursuit that promise important results.

This may be best accomplished by tracing the supposed progress of such an institution. Things must be done by strict system. One of the valuable privileges of the members would be having analyses of their soils, or if natural fertilizers, made at so low a rate as barely to pay the expense. It would be unjust to attempt to furnish analyses without charge, for thus, in one year, the work

of a century would present, and confusion and dissatisfaction would follow. The members should consider that there could be no possibility of their receiving less return from the society than the value of their annual subscription, and should wait patiently the judgment of their officers in regard to matters of *general* utility.

Almost the first measure executed, should be the careful and complete survey of the territory covered by the society. This might be carried on before the completion of the laboratory, &c., and should be conducted by the chemist to the society. Its results should be mapped, illustrating the geology of the county, with particular reference to the relations between the transported or disintegrated surface materials—soils; and those *in place*, or rocks. Care should be taken to bring into notice whatever natural fertilizers might be found; particular inquiries should be instituted with regard to the peculiarities of soil, climate, produce, culture, stock, &c. &c. Specimens illustrative of points of interest should be collected for the cabinet, and for laboratory investigation. Advice and suggestions for the guidance of the farmer should be offered, and the chemist should pass from village to village, visiting the farmers at their homes; encouraging them in their pursuits; bringing them to some audience room and giving them evening lectures. He should visit their schools, and urge the introduction of scientific agriculture as an essential branch of study. He should seek out the young who are manifesting eminent intellectual tastes in natural science, and foster and direct their efforts.

He could thus acquire such a knowledge of the natural capabilities of the soil of his district as would aid him in giving advice, and enable him to adopt the best means of benefiting the whole society. He would gain favor among the people, procure many new members to the society, and command for it a degree of confidence and consideration that would prove highly advantageous.

It is obvious that another person, a competent analyst, could be very profitably employed in constant attendance at the laboratory, occupied with analytical investigation. The attention of the professor, (I can think of no other word that is of such general and convenient application,) would be much required, after the completion of the preliminary survey, in lecturing and visiting the various parts of the county, on errands connected with his duties, so that the laboratory operations would not be so rapidly prosecuted as would be desirable, without assistance. This assistance might be furnished by young men of proper ability—such as may everywhere be found—who would be glad to work in the laboratory, receiving instructions in return for their services.

The laboratory should at once be occupied with some leading investigation of general utility. Such as analyses of soils and rocks from the various geological formations; researches for improving the mainly pursued branches of husbandry, as the dairy, or the staple crops, &c. Attention should be directed successively, as fast as possible, to the elucidation of the more immediately interesting points of practice; the action of fertilizers; the best methods of feeding, &c. Subjects for investigation would rapidly multiply. Peculiarities of soil, crop, or manure, would speedily be presented for examination, and all who clearly understand the principles of philosophical research, need not be told how satisfactory and profitable such inquiries must of necessity be. The suggestions of laboratory investigation might be practically exemplified upon the farms of liberal and enterprising members. Plans for experimental inquiry might be distributed, and their successful prosecution be rewarded with premiums.

For the cabinet, collections should be made by the Professor or by competent persons, all subject to his approval. The offer of premiums for special suites of local specimens; for example the native grasses, the wood, flower and fruit of the forest trees. Insects injurious to grains, in all their various stages, &c. &c., would both increase the value of the cabinet, and encourage scientific studies among the young.

In course of time it might become expedient to publish an annual volume of transactions, thus rendering the society's contributions to agriculture permanent and generally accessible.

The annual meeting of such a society would possess unusual interest. The cattle show and fair would necessarily far exceed in attraction those conducted in the usual manner. The dissemination of scientific truth, and the impulse it must give its recipients would crowd these exhibitions with things worthy to be seen. A new standard of agricultural excellence must spring up, and the advance of farming would carry along the farmers. Besides it would be generally understood that in addition to seeing more than the usual sights, many things might be *learned*, thus greatly improving upon the present condition of county fairs. Money premiums, I venture to suggest, should be very rarely awarded. It does not argue very far sighted philanthropy to return to the members of a society the identical commodity that has been collected from them, and of which there is good reason to suppose there is enough left among them. The premiums should consist of something valuable which the farmer would not ordinarily be liable to procure. Books, instruments, new varieties of seed, scions and cuttings of fruit trees, ornamental shrubs, house plants, the services of the society's laboratory, &c. would be most proper. Costly medals are better adapted to tickle vanity than to subserve any useful purpose. In all cases a certificate of award should accompany premiums.

I have thus sketched roughly the outlines of an ideal picture, which I hope, for the sake of American agriculture, may soon find many realizations, each wrought by some master-hand and finished in all its details. I could enlarge upon some points of this plan and introduce others. I might furnish a draft of the building &c. but want of space forbids. I conclude by asking the opinions of practical and scientific men concerning the feasibility of the scheme. Saml. W. Johnson, *Dep. of Philosophy and the Arts, Yale College, Ct.*

Protection against the Curculio. We have heard of some instances where the fumigation of trees with brimstone, seemed to protect plums from this insect. Mr. J. R. Howard informs us that Mr. C. H. Hall, of Bluerock, Ohio, has for several years pursued the following with advantage: "He melts sulphur and dips in it woolen rags, which are tied to the end of a pole, and at twilight he fumigates the trees. This he does twice a week, and it is so offensive that the insects leave the orchard. The practice has always been successful."

Breeding Horses.

An article has lately been published in the *Veterinarian*, translated from a French journal, on "Racing considered as a Means of improving the Breeds of Horses for general use and for Military Service." The subject is treated in an able manner, showing that the writer is not only thoroughly acquainted with the principles of physiology, but with practical breeding and the results which have attended the crossing of different stocks. His first position is:

If racing has shown itself to be the best means of improving our breeds of light or speedy horses, experience has also shown that, as practiced in England, it has operated to a greater extent than might be imagined in destroying the breeds of saddle horses, in times past so much in request for commercial and military purposes.

In reference to this point, the writer discusses at some length the subject of racing,—its ultimate object and the means of attaining it. He notices the fact that the English races were formerly of twice or thrice the length they now are, and that the weights carried were twice as great. But at the present time, the object of racing is "gambling" in the most expeditious manner. He says:

To the English it matters little what the length of the race is, or the weight to be carried! With them gambling is the object, the bets they make amounting to enormous sums, enriching one and ruining another. This is the kind of spectacle suited to British national taste; and, were it desired, they would speedily invent others of the kind, with other animals, and another order of contests; for they still have their pugilistic encounters, their cock-fights, and their contests between bull-dogs, whose jaws they have singularly brought to a perfection of strength for this express purpose.

He remarks in regard to the common error, that the various breeds of English horses owe their perfection to racing, or to blood derived from racing stock, that each breed has its "peculiar type, which is, or *ought to be* carefully preserved, so as not to be destroyed by injudicious crossing." He thinks this is the plan generally pursued in England. Upon this the editor of the *Veterinarian* remarks—

There can be no doubt but that the English breeder has a principle or object in view when he sends his mares to particular horses. But, save in the case of the race-horse, which the stud-books preserve genuine, and the cart-horse, whose peculiar character preserves him, a great admixture of breeds is known to take place, which has proved, every horseman admits, of great injury as regards some of our most valued and serviceable descriptions of horses, to wit, weight-carrying hunters, and hackneys, and cavalry horses. The good old sort of those breeds is hardly to be found; while their places are filled either by over-bred horses deficient in power, or by mongrels deficient in blood.

In considering the inquiry whether the English thorough-bred horse is calculated to improve the stocks used for business purposes, and especially such as are required for cavalry, the French writer describes, first, what ought to be the nature and characteristics of the thorough-bred, the manner he is reared, &c.

Physiology, like experience, demonstrates, in a general sense, that, for the purpose of making the greatest exertions of which he is capable in the shortest possible time, a horse must unite in his own body two indispensible requisites, without which it is impossible for him to become a turf horse. He must, in the first place, possess a nervous, irritable, and highly ardent temperament; and in the second, the construction of his locomotive apparatus should be such, in its mechanical relations, as suits best the race he is intended to run, even though this be at the expense of the strength or the resistance of the apparatus; qualities which are not, in point of fact, required for the speed that is demanded.

Convinced of this, the English, so skilled in the art of modifying the nature and conformation of animals according to the purposes for which they are designated, made choice in the first instance, of Oriental blood, as offering the material the best adapted for the model they were desirous of forming. Upon this admirable canvass they subsequently spread their pure indigenous blood, such as it was, taking advantage of every condition conducive to the production of the animal they had in view.

But to change the nature of Oriental blood, to instil into it those generous qualities which distinguish the pure English thorough-bred, what acute observation, what study, what perseverance, must have been employed in those artificial proceedings which ought to take the lead in operations so delicate! It not only became requisite to preserve certain qualities of the pure primitive blood, in a climate little favorable to it, but at the same time it was necessary to alter its nature, in order to render it, in certain respects, superior to its original condition. To accomplish this, recourse was had to crossing and paring, always with relation to speed, to which every other quality became sacrificed.

The produce called for situations of suitable temperature, assisted by woolen clothing, soft flannel, cut to fit every part of the body. Their stables are kept at a temperature of from 60° to 70° Fahr.; are provided with well-distributed apertures; are well combined, with convenient appendages; in fact, provided with every appurtenance required for the accommodation and comfort of horses of every age. Add to this, aliment of the choicest quality, a regimen well seasoned and regulated, exercise under the direction of men kept for superintendence, diligent cleaning and hard rubbing; in fact, a thousand acts of care, dictated by observation practiced every hour in the day, have all equally contributed to the creation and conservation of the English thorough-bred horse.

* * * *

The production of the cavalry horse must differ considerably from that of the race horse, in being more easy, more simple, and especially more economical. A racer must be of a nervous temperament, highly irritable and vigorous, and should be able to call forth all his power and impetuosity in the short space of time in which he is engaged in the race, supposing even that he is fit for nothing after the trial is over. The race is his only sphere; he is not required to serve any other purpose. No matter how useless or helpless he is in other respects, so long as he wins his race he is highly prized, but no longer.

The writer then adduces the results of crossing with thorough-bred horses in many instances, and for many years, in France, in support of the principles he has laid down, and submits the conclusions at which he has arrived. He considers it a settled point that the French cavalry horses have not been improved by the infusion of English blood.

Mr. Percivall, editor of the *Veterinarian*, appends some remarks on the article above noticed, which are eminently worthy of attention by all breeders of horses. In relation to the first position of the French author, Mr. P. observes—

This is a remark applicable out of the country in which it was made. We are afraid our own land has rendered itself amenable to the reflection. We no longer see in it, or at least nothing like in the same ratio, horses of that useful character for general purposes, which it once could abundantly boast of. On the turf, our King's plate horses, have given place to high-flyers. The hunting field is beset with the same stamp of horse, in lieu of the old, weight-carrying, enduring hunter; our heavy dragoons are under-mounted; our artillery weakly hors-

ed to what they were wont to be; and all because we, in our eagerness to gain possession of blood horses, have lost sight of the really useful and seviceable breed.

Such being, beyond contradiction, the condition of our breeds of horses of the present day, it becomes a duty imperative on us, as it has seemed to be on the French writer, to inquire into the causes of these sad fallings-off in our equine stock; for 'fallings-off,' and grevious ones, they most unquestionably are. In the translated article, from which we have been quoting, it is stated, that the introduction of English blood for the purpose of 'regenerating' their 'old stock' has worked unfavorable changes among the horses in France.

That racing has, up at least to a certain point, been productive of the happiest effects in improving most of the breeds of horses in our own country, is too manifest to admit of a question. To racing, in fact, for our blood stock we owe everything. Our racers are unrivalled. Arabia herself, although their acknowledged parent, can no longer send competitors that can run run with them for the prize of speed and bottom. But, in our fondness for, and eagerness to excel in, so beautiful a breed of horses as the English racer is all over the world acknowledged to be, it becomes a question whether we have not outrun our object, or, in other words, carried what we have all along viewed as 'perfections' rather too far? —sought it at the cost of utility and serviceability? Have we not at the present time more blood-horses in the country than we have ever been known to possess at any former period? And are not the really serviceable hackney, hunter, troop-horse, and harness-horse, in proportion on the decrease? These are vital questions —questions to which we would fain give other answers than such as observation and experiment and truth dictate to us. As we have already hinted, we believe the main cause of this decrease in our more useful classes of horses to be owing to an over-fondness on the part of our breeders for *blood*, to the sacrifice or exclusion of that property which is so necessary to be combined with it, viz. *bone*.

To the preceding observation, we add the following from a late number of the *North British Agriculturist*, in reference to the difference in the points of the Arabian and the English race-horse:

The English race horse differs in some points from his Arabian ancestors—his size has increased from 14 hands 2 inches to 15 hands 3 inches or 16 hands in height, while in his conformation he has become rather narrower over the loins, and longer in the forehand, but he has partially lost the fully developed joints with the sinewy tendons which is one of the characteristics of the pure Arab—he has also lost to a degree the fine intelligent eye and playful docility of the Arab. Many causes have been in operation to produce this change. The alteration of form has been probably effected, with the view of securing greater speed though such a form is less perfect for general purposes. The form of the Arab horse shows a perfection in its proportions which has been hitherto overlooked by physiologists. In numerous measurements which we have made, the superiority of the Arab over the English form was to our mind quite conclusive.

Buying and Selling.—A cotemporary gives the following fine advice on this subject: "If you expect to prosper, never try to be 'sharp for a trade.' Always sell at a fair price, when offered, if you wish to sell at all—never wait for a high one. Sell for cash or sure pay—and not at a high price on credit, at the risk of losing a debt. Always pay a fair price for what you really need —no farmer will prosper in making it an object to purchase below it." To which we may add, that we knew two neighbors, one of whom went for fair prices, the other for shaving. The honest man dealt freely with whom he chose; the shaver was avoided by all;—the one could always hire the best and most trusty hands; the other only the poorest, who could find no other places; the one had many open hearted friends; the other more secret enemies. Which, do you think, passed the most comfortable life?

The Horticultural Department.

CONDUCTED BY J. J. THOMAS, MACEDON, N. Y.

The Best Cherries.

The *eight* standard cherries recommended by the American Congress of Fruit Growers, were Mayduke, Black Tartarian, Black Eagle, Graffion (or Bigarreau,) Knight's Early Black, Downer's Late, Elton and Downton. Successive years of trial must of course vary or modify this list. There are some new sorts which promise great excellence, and among them, none more than Dr. Kirtland's new seedling, known as *No.* 10. From two years fruiting, we are inclined to place it at the head of the list of cherries for mild delicious flavor. while its early maturity, and large size, and the fine growth of the tree, are great additions to its value. The *Early Purple Guigne*, after many years trial, stands entirely alone as the best very early variety, ripening with the May Bigarreau, to which it is much superior in size and greatly in flavor. *The Doctor*, another of Kirtland's seedlings, is its best successor. This is rather earlier than the Early White Heart, is usually somewhat larger, and decidedly better in quality..

Knight's Early Black, which is larger than Black Eagle and equally good, often proves a scant bearer. The *Graffion*, (known often as "Yellow Spanish,") is also rendered less valuable by its deficient productiveness in many localities. Like the Mayduke, it appears to be peculiarly liable to the attacks of the curculio. During unfavorable seasons, it appears to be unusually subject to decay on the tree. The Elton, although not first in delicacy of flavor, still stands eminent for its fine quality, fine appearance, and great productiveness. In the last named quality it exceeds the Downton, but falls below it in quality. Downer's Late still maintains its high stand for hardiness or unusual freedom from most of the disasters to which cherries are incident, its excellent flavor and prolific bearing. Its only defect is its moderate size.

After all, it will be hard to find any new cherries superior to those old established sorts, the Black Tartarian and Mayduke;—the former for its size, bearing qualities, and agreeable flavor to most persons; and the latter for the unequalled richness of its juice when fully ripened.

For a succession of reliable, productive, and valuable sorts, we do not know that we could at present give a better list than the following:—Early Purple Guigne, Doctor, Kirtland's No. 10, Rockport Bigarreau, Black Tartarian, Elton, Downer's Late, Belle Magnifique. But as some of these may fail in unpropitious seasons, none being wholly secure from accident or disease, a larger selection should be planted where admissible.

Long-keeping Apples.

A great deal of inquiry is made for the best long-keeping varieties of the apple; and the subject is worthy of much inquiry. It is easy enough to have a good supply through winter—a period when the requisite degree of coolness is so easily obtained for the preservation both of the fruit and its flavor. Hence the ease with which

even the later autumn apples, may be kept during winter in cool cellars. But on the approach of warm weather, those that escape decay, soon have their flavor and freshness dissipated in the air. A vacancy of many weeks then occurs before the ripening of early fruits, which can be supplied only by long-keepers.

A fruit must possess two distinct qualities for this purpose,—namely, endurance from decay, and retention of flavor. For this purpose we shall probably not soon find any equal to the Newtown Pippin—and next to this are the English and Roxbury Russets. The Northern Spy is a fine keeper, and when preserved in a cool cellar retains well its freshness, even into the first of summer; but later in the season, it loses its flavor while yet retaining its juicy flesh and showy appearance. The *Kingsley Apple*, a new variety, introduced by Dr. Long of Rochester, a small fruit of unusual delicacy of texture, will keep a long time, but it does not usually retain its best flavor long after the approach of warm weather.

For conveyance to distant markets, the Northern Spy does not seem so well fitted as some others, being more liable to injury. This fine apple, in truth, not only needs more care in cultivation than most others, but when gathered, packed and shipped, should be handled with the same care that is given to a fine piece of crockery or a looking-glass.

One of the best long-keeping sweet apples is the *Ladies' Sweet*. We know of no sort which presents so beautiful an appearance by its brilliant coloring late in spring—although in richness of flavor it does not reach the highest point. A drawback is the slow growth of the tree. It is a profuse bearer.

Fruit Drying Apparatus.

The best means of preserving the *surplus* of the vast fruit crops which will in a few years be raised in all parts of the country, cannot fail to become a matter of general interest. We copy from the last number of the Michigan Farmer, the following description of a *fruit-drying house*, which appears to be a good one, but we would suggest the use of fine netting made of hard-twisted twine, instead of lath screens; and a good ventilator at the top of the building for the free egress of the heated air as it becomes continually loaded with the moisture of the fruit. The free circulation of the air, so essential to rapid drying, would doubtless be facilitated by allowing a space between the screens and the outer wall.

Having a large orchard, consisting of 500 apple trees and 150 peach trees, which have just commenced bearing, I found it necessary to adopt some method to secure my fruit, and drying presented itself as the safest and most profitable way. I built an upright of 9 by 11, 8 feet in height, on a good stone foundation, placing a common 12 light window in one end, and in the other, fronting the house, a door. In the end where the window is I have a chimney. The walls are 8 inches in thickness, arched and plastered inside. The inside work consists of screens, 25 in number, 2 feet 3 inches wide, 12 on each side and one overhead. These are supported by 2 inch square posts in each corner, in which mortices ¾ by 1¼ inch are made to receive a railing to support the screens. The rails are received at the other end in a gane mortice, and may be taken out at pleasure.

The screens are made of wood in the following manner: 3 strips of ¾ by 1¼ to fit the inside, (the one in the middle rendering it stiff.) Across these are nailed small slats, near enough together to retain fruit when dry, thus making a light, stout and durable screen. These are sufficiently large to hold from 1 to 1½ bushels each, which enables me to put up 30 or 35 bushels at a filling. By means of a large box stove these may be thoroughly dried in 36 hours, and then refilled. The fruit dried in this manner is of superior quality, being much better in flavor, and presenting a cleaner and neater appearance than when dried in the ordinary way.

Horticultural Memoranda.

Protecting tender Roses.—After trying various modes of sheltering tender roses during winter, including the use of moss, inverted turf, straw, tan-bark covered with boards, &c., none appears to be equal to a covering with the branches of evergreens. Plants but slightly tender need very little shielding in this way; while those the most susceptible of injury should be encased several inches thick. One eminent advantage which this treatment possesses, is the entire freedom from *decay* in the bark and stems of the shielded plants, which sometimes results from other modes. Pine, hemlock, white cedar, &c., may be used for this purpose. Where evergreen hedges or screens have been planted, the shearings or clippings may be employed with great convenience.

Bleeding of Grape-vines.—When the grape is pruned in autumn, in winter, or very early in spring, the sap-vessels will close, and no flow from the wound will follow. But where this needful work has been omitted at the right time, those who have an aversion to prune in consequence of the prodigious flow of the sap which takes place as the buds expand, may save themselves all trouble from this cause by waiting some days till the leaves are as large as a currant leaf. If the pruning is then performed no bleeding will take place. Pruned at this season, we have found young hardy vines to do as well as at any other time. The injury resulting from the flow of sap, is however, overrated; and by some experienced cultivators it is believed to produce no injury whatever.

Remedy for Plum knots.—The old-fashioned remedy, "*to cut and keep cutting*," still proves infallible. Unfortunately, is is very rarely applied, even by those who think they have given it a fair trial. Perhaps the disease has been permitted to advance for two or three months before it has even excited attention. The knife is then made use of and a single operation is regarded enough. No wonder that a remedy, applied in such a burlesque manner, should be considered inefficient. We observe that the application of copperas-water to the wounds made by the excision of the knots on the larger branches, is spoken of highly by different cultivators.

The Cherry Slug.—This larva, which eats the pulpy part of the leaf of the cherry, and sometimes of other fruit trees, is most effectually routed by a sprinkling of *lime*. Air-slacked lime, applied in the dew of the morning, usually accomplishes the desired purpose. Dry, water-slacked lime, taken fresh, is still better, being more caustic.

Pear Blight.—The cause of this disease, like the potato rot, will probably for a long time remain in perfect obscurity; but the remedy where an attack has actually commenced, is plain. Nothing can restore a *diseased* limb, the poison from which otten spreads to

other parts, and hence the immediate lopping of all such limbs must be resorted to. Discovering some weeks since that a considerable number of pear trees were just becoming affected, the knife and saw were promptly and freely applied, even at some distance below all appearance of blackened bark, although it became necessary to destroy some very fine newly set fruit of rare varieties. This checked at once all progress, and no indications have since appeared. A neighbor, who hesitated a few days in thus "mutilating" some of his favorites, was ultimately compelled to lose nearly the whole of them. The portions cut off were buried in another place to prevent the spread of the infection. In malignant cases, this remedy may prove insufficient, or it may have to be repeated for many successive days. But how much better it is that a tree should fall before the knife, than to perish wholly by blight and spread the poison through the orchard.

The Curculio---Causes of Failure.

It is more than 20 years since I caught this troublesome insect on sheets, and secured my crops of plums, nectarines, and apricots; and whenever the business has been thoroughly done, I have never been disappointed. An average of about 1,500 curculios, caught in the first ten days of summer, though sometimes rather earlier, have proved a sufficient reduction of the tribe.

This method of protecting stone fruit, I first published in the New-York Farmer; and afterwards I several times introduced the subject into the old Genesee Farmer. Of late, however, I have seen reports of its inefficacy; and as the word "shaking" has been generally used, perhaps the following extract from the latter journal, which I wrote in 1832, (vol. 2, p. 185–6,) may throw some light on the difficulty.

The first statement was dated 6th mo. 7, 1832, and describes the imperfect mode as commonly practiced:—

"On the first day of this month, I observed some curculios on the plum trees in my fruit garden; and not knowing how numerous they might prove, or how much danger was to be apprehended from them, we spread the sheets which we keep exclusively for this purpose, and by shaking, we caught from about fifty trees, more than 30 of those insects. Since that time, on different days, we have made similar trials; but we soon became satisfied that only a few were left; and unless others migrate hither, which the movements of the hogs will be likely to prevent, I think their depredations will be very limited this season."

Three days afterwards I furnished the following statement, containing a very important improvement on the mode before described:—

"Not three days ago, I saw that many of the plums were punctured, and began to suspect that *shaking* the trees was not sufficient. Under a tree in a remote part of the fruit garden, having spread the sheets, I made the following experiment: On *shaking* it well, I caught FIVE curculios; on *jarring* with my hand, I caught TWELVE more; and on *striking* the tree with a stone, EIGHT more dropped on the sheets. I was now convinced that I had been in an error; and calling in the necessary assistance, and using *a hammer to jar the tree violently*, we caught in less than one hour more than 260 of these insects."

Now I should think that these statements would explain all the failures that have occurred in this business. At that time my trees were not large, but they have long since become so; and to attempt to shake them now, or to jar them with the hand, would be out of the question. We only strike them with an axe, and the blows may be heard to a considerable distance. To muffle the pounder to prevent its bruising the bark, would be preposterous in the extreme; for the stroke to be effectual, must be a sharp and sudden jar.*

Some of the success of these operations however depends on the temperature of the weather. Thus, many of these insects fly off in the warmer part of the day, and in the coolest mornings we catch them in the greatest numbers. DAVID THOMAS. *Greatfield, 6th mo.*, 1851.

The Curl in Peach Trees.

It is a matter of doubt with me, whether the *curl* may with propriety be considered a disease. The appearance has become so general that I am almost induced to believe it is so, but *some* circumstances which have fallen under my observation, lead me to a different conclusion. Last season *most* of our trees suffered very much, but slow growing varieties more than others; Tillotson, Noblesse, and a few others of similar growth, presented a *stripped* appearance, and ripened little or no fruit. A very fine tree of Noblesse, standing close by the kitchen door, looked as though it might never leaf out again. Late in the autumn I told the *good lady* having charge of that department, to permit that tree to be the recipient of all her out of door favors, in the form of *mop* water, &c., which is usually the boiling suds from white clothes, in which the new washing preparation, composed of sal soda and lime, had been used. It now is covered with deep green foliage, and loaded with fine fruit. I also observed, that last season a tree of Bergen's Yellow was not at all affected, around which the sweepings of a new cellar, lime, mortar, rubbish and shavings, and all, were heaped up, a foot to eighteen inches high. This year it is *entirely* exempt from the curl. Several other instances of the same kind might be given, showing that good cultivation certainly proves effective. The shortening-in system, when thoroughly performed, has *frequently* been quite successful—and *always* beneficial. With us, the early Barnard has been signally obnoxious to the curl; this has also been the case in several *nurseries* of young trees, containing many of this variety. E. S. *Hillside, Macedon, Wayne Co., N. Y., 7th mo. 1st.* 1851.

The Large Flowered Bignonia.

The profusion and variety which distinguish the display of flowering plants during the early part of the season, disappear usually by the middle of summer, and a destitution is often felt for the rest of the year. For this reason those which make their appearance late in summer and early in autumn become doubly desirable. Among these are the large flowering Bignonia, (BIGNONIA *grandiflora*, TECHOMA *of Juss.*,) which for richness

* The short stump of a sawed limb, to receive the blows, as pointed out on former occasions, has been found best. ED.

and magnificence is scarcely surpassed at any time of the year. It is a climbing shrub, like the old trumpet flower, (*Bignonia radicans,*) and may be trained in the form of a pillar, or to the face of a wall. As far north as 43°, it is slightly tender, and needs a slight protection with evergreen boughs in winter. If left exposed, the tips of the shoots will be destroyed.

The foliage much resembles that of the common trumpet flower, but is of a much darker green; the flowers measure from three to three and a half inches across the corol, and single racemes are often a foot long. This large size, added to their rich orange color, renders them eminently ornamental and showy. The plant continues to bloom through the latter part of summer and through several of the earlier weeks of autumn.

Notes on Strawberries.

The garden of R. G. Pardee, of Palmyra, N. Y., presented during the strawberry season a display that we have seldom seen equalled. Specimens of Hovey's Seedling weighed half an ounce, and many of the berries of Burr's New Pine were scarcely inferior in size, measuring from four to four and a half inches in circumference. Like nearly all other cultivators, he regards the latter as the best sort decidedly, for home use. Very fine specimens of Black Prince were also grown, but their great size and succulence appeared to be quite at the expense of their flavor. To test the often repeated assertion, that the common wild strawberry, is not excelled by cultivated sorts in quality, a few plants were given a fair trial; but when eaten side by side, they were fonnd inferior to nearly every other sort in the garden, which contained some thirty or forty in all.

The late Strawberry Exhibition of the Genesee-Valley Horticultural Society at Rochester, presented as usual a rich display of specimens. Among them were several of Ellwanger & Barry's new Seedlings, which have now been subject to some years of trial. The most showy is the *Genesee*, of large size, good flavor, and with an unusually brilliant scarlet color. *Monroe Seedling*, is another of decidedly fine appearance. Another, which they as yet call No. 1, possesses the finest flavor of any of their new sorts, and which is not dissimilar to tliat of Burr's New Pine. These sorts all grow freely and bear well on their grounds, which possess great fertility; their promise of high value certainly entitles them to a fair trial elsewhere.

Late Apples at the West.

Dr. Warder's Review informs us that at the exhibition of the Cincinnati Horticultural Society, for the display of roses, cherries and strawberries, there were specimens of the Newtown Pippin and Rawle's Jannet, "which were remarkably well preserved and retained a good flavor." These appear to be the two best keeping apples of that region. The warm sun and fertile soil of that part of Ohio, seem admirably adapted to the successful growth of the Newtown Pippin, those we have examined from that region being of finer appearance and of a much better and more matured flavor than any grown in central or western New-York.

Blackhall's Steamed Bone Manure.

Analytical Laboratory, Yale College,
New-Haven, Conn., June 30, 1851.

Editors Cultivator—I have written so much on this single topic of bones, that some of your readers may think it worn threadbare. But while I see the great apathy which still prevails among farmers as to their use, when I consider the enormous waste of them which still occurs in almost every district of our country, I feel that I have not said and cannot say too much about them.

It must be acknowledged that there are practical difficulties of some consequence, in the employment of bones as a manure on ordinary farms. If applied whole the quantity required to produce much effect is very great, not less than from 50 to 80 bushels per acre. Crushing or cracking them by hand is a very slow and imperfect process, which soon leads to discouragement if the collection be large. Mills for grinding bones are as yet few, and bone dust as an article of trade is chiefly confined to the large towns, and must be transported often to a great distance. The easiest way to bring bones into a proper shape for application to the land, and at the same time the most effective and economical method is to dissolve them in sulphuric acid. This is a simple process enough, but I know from frequent experience that it appears very formidable to the farmer who is not accustomed to novelties. He is afraid of the strong acid; perhaps has some difficulty in finding it at all in his neighborhood, and is often finally discouraged into letting the whole matter stop by one or two failures in his first attempts. No description of a process can avoid every possible source of error, and unpracticed manipulators are pretty sure to make some mistakes, when they meddle with chemicals for the first time. Those who have more faith and perseverance do not give up at the first ill success, but try again, and always reap a reward for their good courage. Such however are comparatively few, and the number of those who shrink from any effort whatever, is greatest of all.

In view of the dread which farmers have of this method, I take up for the subject of the present letter, the process of dissolving bones by steaming, a process which has lately excited much attention in Great Britain. This process has already been mentioned in your columns on one or two occasions, but I have thought that a more extended notice might possess a considerable degree of interest. I have at various times within the past year or two, received letters from Scotch and English friends speaking highly of steamed bones, and the subject has also been fully discussed by the agricultural papers.

In the Farmer's Guide, just published by the Messrs. Scott of New-York, a full description is given of the process, with plates of Mr. Blackhall's apparatus. I will here mention the general principles of his plan. Any old boiler of small size will answer for this purpose. It is fitted so that a considerable charge of bones may be placed on a grating in its upper part, and there be exposed to the full action of the steam. The lower part of the boiler is filled with water, and then all that is needed is a fire, and a safety valve to make sure that the pressure of steam does not become so great as to endanger the safety of the boiler.

If the charge is introduced in the morning, steam is kept up through the day, and the boiler left to cool off at night. On the succeeding morning the bones are taken out, and are found to be so altered and softened as to be readily crushed to a fine paste or powder. All coherence is destroyed, and the result of the process is thus a mass of extremely minute particles.

This is the same object which is attained by grinding in a bone mill, or by dissolving with sulphuric acid. In the latter case there are also certain highly important chemical changes, but still the state of minute division to which the bone is reduced, is one of the chief points gained. This division into small particles is of advantage, for the reason that such particles are more readily dissolved and decomposed in the soil, and therefore more immediately and fully available to the plant. This consideration of quick action, is highly important in the application of manures. A small quantity of a soluble or finely divided fertilizer will produce a better effect than many times the amount of some substance equally rich in composition, but imperfectly soluble, or in large hard lumps.

For this reason steamed bones have been found highly advantageous as a special manure, a comparatively small quantity answering the desired purpose in hastening and augmenting the growth of the crop. Eight or ten bushels per acre, have been found to produce a most remarkable effect, far more than equivalent to a heavy dressing with the ordinary farm-yard manures. In fact it is scarcely necessary that I should enlarge upon their properties in this respect, for even the most careless reader on agricultural subjects, must by this time have learned, that any form of soluble phosphates constitutes an exceedingly concentrated and powerful manure for all of our cultivated crops. Phosphates are a necessary condition of life and luxuriance to all or nearly all valuable plants, and it is obviously important to furnish them in such a form as shall be mostly readily available.

Several important papers relative to steamed bones, have been lately published in the Journal of the Chemico-Agricultural Society of Ulster, Ireland. Some of these, and perhaps the most interesting, are by Mr. D. T. Jones, a gentleman who was studying in the laboratory of Prof. Johnston at Edingburgh, when I was also a student there. He is now applying his chemical knowledge to the improvement of a large estate in the west of Ireland.

He has made some experiments on the actual cost of the process, counting in the price of the bones, of the fuel, of labor, &c. His boiler held 7 cwt., and the results were taken from five successive charges. Bone dust cost £6 12s. or about $30 per ton, while a ton of raw bones cost but £3 or about $15. The additional expense of steaming, was a little less than $1. For a trifle more than half then, he obtained by the steaming process a ton of bones far more finely divided, and consequently more immediately beneficial, than bone dust. Other writers give almost equally favorable results.

The advantage of economy then, seems clearly to rest with this process. The question arises, however, is there any loss of valuable substance. With a view to settling this question, Mr. Jones has lately made some direct experiments. Dr. Voelcker, of Cirencester Agricultural College, analysed some specimens of the steamed bones as prepared by Mr. Jones, for the express purpose of comparing them with bone dust. The following analyses give his results:

	Steamed Bones.	Bone Dust.
Organic matter,	28.68	35.25
Phosphate of Lime,	57.73	54.00
Carbonates and Alkalies,	4.29	1.49
Sand,	9.30	9.26

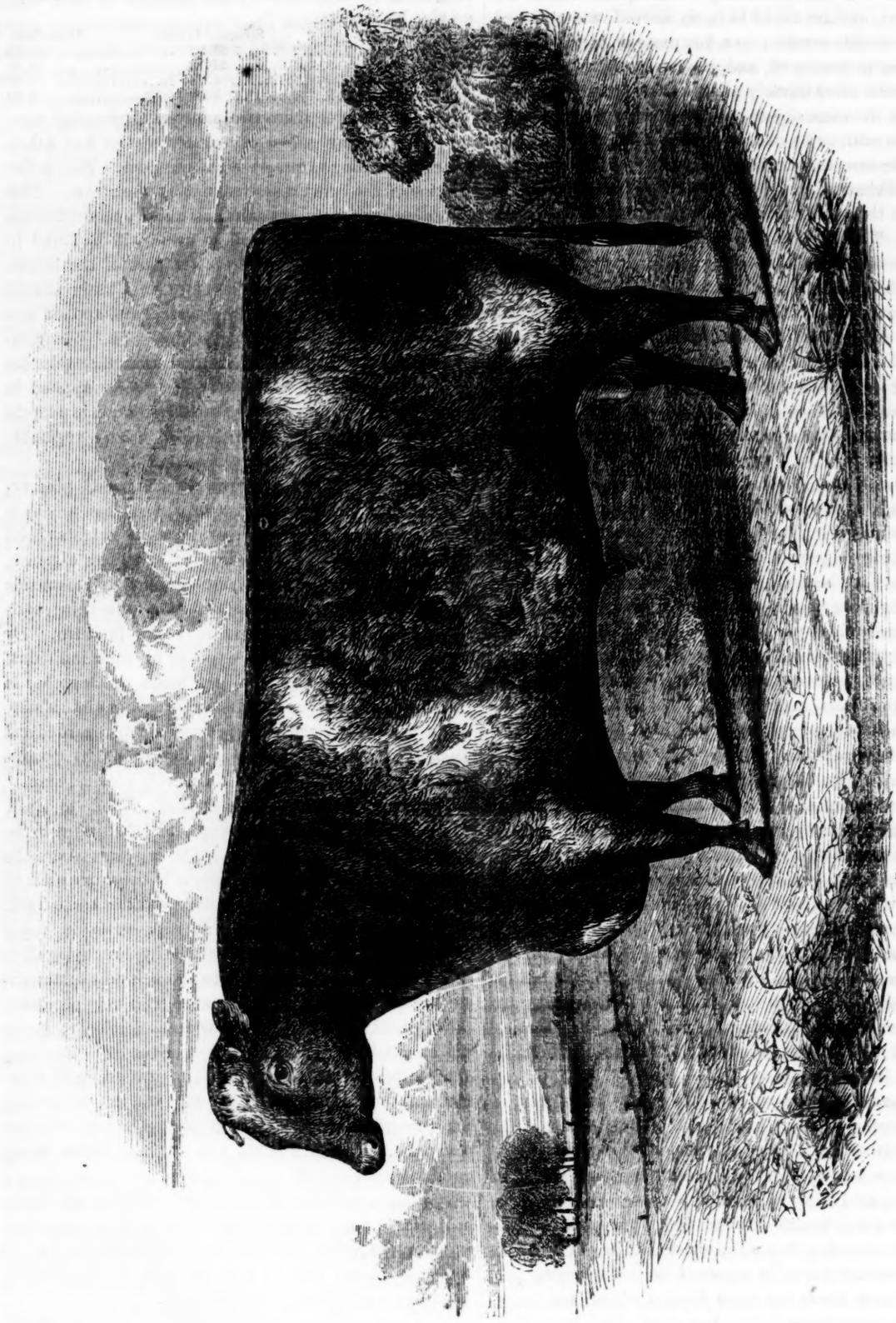
A comparison of these two analyses shows, that during the steaming a loss of organic matter has taken place, amounting to nearly eight per cent. This is the gelatine of the bone, dissolved out by the steam. This loss is however only apparent, as a moment's reflection will show, that this dissolved gelatine will be found in the water that occupies the lower part of the boiler. After one or two charges therefore, this water should be drawn off, diluted with fresh water, and applied as a top-dressing upon meadows or young grain. The gelatine being a highly nitrogenous, and therefore valuable manure, produces an excellent effect when applied in this way. If not convenient to use this solution in a liquid form, it may be mixed with peat, ashes, vegetable mould, &c., or added to a compost heap.

We thus see that every portion of the bone is preserved, and made useful as a fertilizer, and that too by a cheap process. Some farmer in each neighborhood might set up such an apparatus at a trifling expense, and supply the whole adjoining country at reasonable rates. Or an association might do the same thing, each steaming his own collection of bones in turn. By managing in this way the expense to each individual would be quite small, and all the bones got together in the course of a season could soon be brought into a state fit for use. They are now so commonly disregarded and wasted, that in most situations a farmer might possess himself of large quantities for a merely nominal sum.

The crushed mass of steamed bones, if left to itself soon heats and ferments, causing a loss of nitrogen in the form of ammonia. To prevent this in cases where the bones are not to be used at once, it is recommended to add a little salt; this arrests decomposition, and is itself of some value as a manure. It also serves in many cases as a check to injurious insects, by destroying their grubs. Where it is desirable to add a highly ammoniacal and energetically acting manure, it is only necessary to withhold the salt, and allow fermentation to go on till ammonia begins to be largely given off. The heap should then be mixed with gypsum, peat ashes, or charcoal dust. This applied to the soil will act as quickly and powerfully as guano, with the advantage of a far less price. From six to ten cwt. of these bones would produce more effect upon most of our crops, than a very great application of farm-yard manure, and being so portable might often be employed with a very great saving of expense. I think that the addition of 8 or 10 lbs. of sulphuric acid to each 100 lbs. of this manure, would be a still farther improvement.

This method seems to me remarkably feasible, simple, effective, and cheap, and I hope that this notice may induce some of our more enterprising farmers to try it, and to make their success public. The apparatus need cost but little at first, and the same boiler might be employed to steam food for stock in winter. Yours truly,

JOHN P. NORTON.



SHORT-HORN BULL EARL OF SEAHAM.—(*For Pedigree, &c., see p. 278.*)

A SILESIAN MERINO EWE.

Notes of a Tour in Europe.

The above figure is a portrait of a Merino ewe, procured in Silesia, by Wm. R. Sanford, Esq., of Orwell, Vt. It is one of the lot noticed in our current volume, p. 218. We have received from Mr. S. the following notes in relation to his tour through Europe for the purpose of examining and purchasing sheep. In the present chapter we have the results of his observations in regard to France and Spain; in a future number he will furnish those relative to the various German states through which he passed.

Editors Cultivator—In compliance with your request, I will endeavor to give a short account of a tour in Europe. I sailed from New-York, Jan. 24, in the packet ship Splendid, for Havre, France. We had three days of pretty rough weather; the rest of the time quite fine. We had a passage of 24 days. I was very seasick about half the way, which was anything but pleasant, I assure you. Mr. Greely has pictured it very fairly in his description of crossing. Havre I found to be a very busy place, as of course it must be, it being the great shipping port of France. One of the first things I noticed, was the horses that they work in their carts; they were very large and strong built, and carry enormous loads with them. I think they are preferable to any I ever saw for draft-horses, especially for cart horses for our cities. I had to stop one day in Havre to get my luggage through the custom house, and my passport vised, which is a very great annoyance. I started from Havre at 11 o'clock, A. M.—arrived at Paris 5 P. M. The railroad runs a good part of the way up the valley of the Seine—most of the way a beautiful country, and in a good state of cultivation. They were plowing and sowing their spring wheat. The plows are cumbersome and awkward things. They have long beams—the fore-end of the beam mounted upon a pair of wheels about half the size of a wagon wheel. Paris is a splendid city, so far as outward show is concerned. There appears to be very little business done in comparison with our cities. I shall not attempt a description of the city, as my business was to see the stock of the different countries I visited.

The first flock I visited was Mr. Gilbert's; he has not only a good flock of sheep, but good horses, and some fine cows. He keeps about 25 cows; some of them have the appearance of being fine milkers; they are well cared for, and are in fine condition as well as the rest of his stock. He has good warm stables for all of his stock. Nothing is left out, unprotected. In fact it is the custom through France and Germany to shelter their stock in the winter season. He appears to be man of a good deal of intelligence and a good farmer. I found him to be kind and obliging. After looking over his stock, he took me a few miles from his place to see the agricultural school at Gruno. It is a government establishment. They have a large farm connected with the school, and are breeding most kinds of stock. Their policy is to cross every thing in the sheep line. They are making a cross between English and Merino. They have English ewes and Merino rams. Of cattle they have almost all kinds —French, English and Swiss. Their bulls were mostly

Swiss, of good size and pretty well formed, but bad handlers. They have some very good hogs of the English breed, and were making a cross of the English and Chinese. The farm appeared to be in a high state of cultivation. Great pains were taken to make and save all the manure.

The next farm I visited was the government farm at Rambouillet. The stock here, is principally sheep. It is the place where the Spanish sheep were first placed, and have been bred by the government ever since. There is a palace there, but not in a very good state of repair at present. It was formerly quite a favorite place of resort as a summer residence for the Kings of France. The Director was very courteous, and took every pains to show the sheep, samples, &c. They have samples of every sheep that they have sheared since they commenced. Everything is done systematically. They have paintings of most of the bucks that have been used. The form of the sheep is not as good as some other flocks that I saw, but the wool is finer. The director gave me some beautiful samples. They sell only once a year, and then at public auction. They sell all the bucks that they raise in that way, except such as they reserve for their own use, and ewes, if they have any to spare. They sold no ewes this year.

I next visited Monsieur Cughnot's farm, who has about the same number of sheep, and about the same quality of Mr. Gilbert's. These three flocks stand at the head. They are the places where almost all resort for bucks. I met a good many sheep breeders from different sections, at those places, buying bucks. February is the month in which they generally select their bucks for the next season. They universally admitted that Messrs. Gilbert and Cughnot had the best sheep in France.

On returning to Paris, I fell in with Mr. George Campbell of our State, who was on the same business that I was, (after sheep.) We therefore concluded to travel together, and purchase in company. We concluded to go to Spain first, as that was the place where the fine sheep came from, and see what we could find. Started from Paris Feb. 4th, went 150 miles by railroad to Tours. The country, a good part of the way, quite poor; saw very little stock. We passed several miles through a valley, I should judge from 6 to 8 miles wide, with a continuous village at the foot of the hills each side of the valley. The valley is meadow and pasture; the hills are planted to vines. Every few rods is a wine vault, all the way. At Tours we took the diligence—found beautiful roads and quite level. The roads are in perfect repair; they keep stones by the side of the road, broken fine, and persons all the while on the road to keep in repair. As soon as they begin to wear down in any place, they put in some of this broken stone. The road will be as straight as you can draw a line as far as your eye can extend. In the south part of France and north part of Spain, they have trees planted each side of the road; many of them have got to be of good size, and form a beautiful shade; they are generally poplar. They drive from 5 to 6 horses—three abreast—go at the rate of from nine to ten miles an hour. Their horses are large, and generally in fine condition. They are a very strong, hardy race of horses. As you approach towards the south of France, you begin to see oxen at work. The first I saw were poor and small; the way they work them is to lash a stick back of their horns, which is the way they do all through France and Spain, and drive them with goads. I never saw them use a whip in Europe, to drive oxen. They take no pains to match them either as to size, color or sex; sometimes they will have an ox and cow yoked together. As we go south, we found the vineyards more extensive and the vines larger; they were trimming the vines. They keep them headed down to about 2 feet high; they bind the parts they take off into bundles for fuel; some they cut close to the main stalk, and others they leave about 3 feet long. They plant them out in different ways; some times they occupy all the land. They put the rows from four feet to four rods apart; when they do not occupy all the land, they till it between the rows; a good share of it was in wheat.

We arrived at Bordeaux, at 8 o'clock, 2d day. It is the second city in France. Its principal trade is wine and brandy. We started from Bordeaux at 8 o'clock next morning—arrived at Bayonne at seven the following morning, 175 miles. The country, part of the way from Bordeaux to Bayonne, is poor—some of the way a perfect desert; and the inhabitants look as poor as the country. After leaving Bordeaux, I noticed that they had the inside horns of their oxen sawed off to about 4 inches long. About half way from Bordeaux to Bayonne we found another kind of cattle; they must be well bred, as they are all alike. I have seen sometimes 20 yoke, I should think, in a string, and any two of them would match. They are not large cattle, but well formed, tight snug built—a yellow red color, with horns about medium length, well formed, and stand about right—we found this kind of cattle for about 100 miles in the south of France, and about the same distance in the north of Spain. They make fine oxen, but what the cows are for milk, I did not learn. The women do most of the marketing in France. In the morning at Bordeaux, and the same at Bayonne, the roads were full of women, carrying their stuff to market; some with mules, but more with donkeys; their stuff put in baskets and slung on each side of the donkeys, and would weigh often more than the donkey. But the greater part carry their vegetables, fish, or whatever they have to carry to market, in baskets on their heads. The diligence starts from Bayonne for Madrid. We had to stop over one day to get our passports vised. We entered the Spanish territory about 25 miles from Bayonne. A small river divides the two countries; the French flag is flying on one end of the bridge, and the Spanish on the other—we had to have our passports vised by the police on leaving France, and again on entering Spain. The country we passed the first day was very good; they raise large quantities of turneps, which stand in the field through the winter. We came to the mountain about dark. They had to put on oxen in two or three places to draw up the diligence. They drive principally mules in Spain—usually from five to nine. They are very cruel to the mules, the whip being in almost constant use, sometimes by two drivers, one on the box and another along side a foot. I have seen these Spaniards run 2 or 3 miles at a time by the side of the mules, on a full gallop, whipping all the

time. A good share of the way after striking the mountains, the country is miserable, and the inhabitants more so. If any one wants to see poverty, let him travel tnrough Spain. I have counted ten beggars at one time around the diligence; they are at all the stoping places, and at hills where they have to walk the team you will find them stationed. Everything is done in Spain, I should judge, as it was a thousand years ago. A great share of the stuff goes to and from market on the backs of mules and donkeys. As you get near Madrid, the road is full of them. Saw very little stock on the way but sheep, and they of a very inferior kind. In the north of Spain and south of France, they have the poorest sheep that I ever saw. In many of the flocks two-thirds of them will be black—their sheep are small, with coarse wool, and ill-formed.

The tools used here are very rude and clumsy; their plows are a crooked stick, the mortice through the upright part, just in the turn, and put through a piece of iron which runs along the top of the lower part, an inch or two beyond the point of the wood. With this apology for a plow, they scratch up the ground. In some parts of Spain I saw fine looking crops, cultivated in this miserable way, and without manure. Very little use is made of manure in Spain, except to burn the land. The land must be very strong and rich to bear such crops with such cultivation, and without manure. We were three days and two nights from Bayonne to Madrid.

We called on our minister at Madrid, and found him very ready to do all in his power to assist us. He is a gentleman well fitted for the place, and is very much respected. On inquiry, I found most of the sheep owners lived in Madrid; but the sheep were about 200 miles from Madrid, in Estramadura, in their winter pastures. I became pretty well convinced before leaving Madrid, by conversing with the sheep owners, that we should not find anything that we wanted. Some of them admitted that their sheep were much degenerated, and they were thinking about taking some measures to improve them. They said they were going to Germany to get bucks. All said that their sheep were not as good as they were before the French invasion—that they have no standard flocks to resort to for good sheep, as they had before these good flocks were broken up. But as we had gone so far, we concluded we would go and see for ourselves. When we examined the flocks we found them about as we expected. The sheep, as a general thing, are small—no wool on their legs, and very light colored—occasionally there would be a good looking sheep in the flock, bearing some resemblance to those that were formerly brought from there, but with no fixed characteristics. I should not dare to breed from them, as there would be no certainty in breeding from such animals. I did not see a sheep in Spain that I would pay the transportation on to this country.

Estramadura is one of the wildest parts of Spain, and is rathera hard place for an American to live. Everything is cooked with garlick and oil. It is a great place for Olives, thousands of acres being covered with the trees. They raise a good many hogs in this part of the country. I have seen sometimes 200 in a drove, all black. They are never fed, and are kept by shepherds, the same as their sheep. They get fat in the fall on olives and acorns. There is a good many coarse sheep in this part of Spain. They raise this wool for their own use. They manufacture their own cloth, both wool and linen. Their process of doing it is very slow. I saw them getting out and spinning flax. It is all done by the women. They use no brake in getting out their flax, it being all done by the swingling knife. The spinning part is done wholly with the hands. They take a stick about three feet long, tie the flax on to one end; the other they hold under the arm, and pull out and twist with the other hand. It hardly seems credible that people will live and do as they do. There are large villages where you cannot find a light of glass. They have only one door to their houses, and everything goes in and out at that door. The stable is in the back part of the house, and the animals have to pass in at this door, and the manure out the same way. After looking among the sheep till we became satisfied that there was nothing that we wanted, we put back for France. Resp. yours, W. R. Sanford. *Orwell, Vt., June 24, 1851.*

Sales of Live Stock.

The sales of stock advertised by L. G. Morris, Esq., of Fordham, Westchester county, and George Vail, Esq., of Troy, took place according to appointment. Mr. Morris's was on the 24th of June. The weather was fair, and there was a large attendance of people. The beautiful lawn in front of Mr. M.'s residence was divided into lots with iron hurdles, and the cattle and sheep to be sold, were brought there in the forenoon, for examination. The stock was generally in good condition, though not in high flesh. At one o'clock the large company was invited to a sumptuous repast, comprising the substantials and many of the delicacies of the season. Soon after this the sale commenced. The bidding was generally brisk, and the animals were speedily disposed of at prices as per following list—which, considering that the larger portion were what are called "grade" stock, may be deemed quite satisfactory. It will be understood that Mr. Morris intends to establish himself as a breeder, and this sale should rather be considered as a preliminary step to that object. He has still in his possession that portion of his herd which he designs as a breeding stock. These consist of selected individuals of the Short-horn, Devon, and Ayrshire breeds, each of which are to be bred pure, under his special care.

The stock sold consisted of

Thorough Bred Short-horn, Cows, Heifers and Heifer Calves.

1.	York, Gen. Gadwallader, Philadelphia,	$110 00
2.	Cleopatra, 9 years old, Gen. Cadwallader,	85 00
4.	Coquette, 4 years old, Edward H. Smith, Smithtown,	50 00
5.	Red Lady, 4 years old, Gen. Cadwallader,	175 00
6.	Eleanora, 4 years old, Gen. Cadwallader,	135 00
8.	Miss Rolfe, 2 years old, A. Van Ingen, jr.	105 00
9.	Fame, 16 months old, Gen. Cadwallader,	60 00
10.	Red Rose, 15 months old, G. Hopkins, Long-Island,	30 00
11.	Kate, 5 months old G. G. Hubbard, West Needham, Mass.,	140 00
12.	Lily, 3 months old, Joel Terrill, Oswego,	80 00
13.	Beulah, 2¾ months old, Gen. Cadwallader,	55 00
14.	Pocahontas, 11 years old, Henry Parsons, C. W.,	100 00

Improved Dairy Stock.

Cows, Heifers, and Heifer Calves.

15.	Beauty, 6 years old, Dr. A. Smith, New Rochelle,	105 00
16.	Sue, 8 years old, Richard Lewis, N. Y.,	100 00
17.	Watson, Henry Parsons,	80 00
18.	Strawberry, Gen. Cadwallader,	75 00
19.	Bess, 6 years old, G. Hopkins,	65 00
20.	Gazelle, 4 years old, G. W. Thacher, Pelham,	105 00
21.	Alarm, 3 years old, John Rae, Morrisania,	37 50

22. Lady Independence, 3 years old, Robert Segoin, Richmond county, ... 67 50
23. Miss Stewart, 2 years old, Jas. Robertson, Peekskill,... 70 00
24. Harlem Maid, 2 years old, Gen. Cadwallader, ... 75 00
25. Lady Canning, 2 years old, G. G. Wilmerding, Suffolk county, L. I., ... 120 00
26. Marietta, 2 years old, Gen. Cadwallader,..... 70 00
27. Sabina, 2 years old, Dr. Smith, ... 77 50
28. Miss Mary, 19 months old, Robt. Segoin,..... ..... 75 00
29. Bessie, 18 months old, J. J. Mapes, New-Jersey,..... 35 00
30. Clara, 14 months old, Robt. Segoin,..... 30 00
31. Laura, 9 months old, Gen. Cadwallader,..... 30 00
32. Lucy, Gen. Cadwallader..... 37 50
33. Helen, 3¼ months old, Morris Ketchum, New-York,.... 100 00

SHORT-HORN AND AYRSHIRE CROSS.

34. Countess, 4 years old, Gen. Cadwallader,..... 82 50
35. Jeannie, 2 years old, Morris Ketchum, ... 90 00
36. Betty Merryman, 9 months old, P. R. Paulding, Tarrytown, ... 60 00

NEARLY THOROUGH BRED DUTCH.

37. Julia Edgar, Lewis Livingston, Rhinebeck, Dutchess co. 120 00
38. Dinah, Lewis Livingston, ... 37 00
39. 1 yoke of oxen, S. T. Wright, Morrisania, ... 145 00

BULLS.

Thorough-Bred Short-horn.

1. Logan, 23 months old, Oliver Slate, Jr., Pelham,..... 175 00
4. Mark Anthony, Jas. B. Wilson, East Troy, Wis.,..... 135 00
5. Passaic, 2 months old, Joel Terrill,..... 50 00

Bulls slightly crossed with Amsterdam Dutch.

6. Pontiac, 15 months old, J. G. Goodwin, Kingsbridge,.... 70 00
7. Red Rover, 5¾ months old, T. Rives, Virginia,..... 105 00
8. Medley, 11 months old, Ed. Biddle, Morristown, N. J... 65 00

Pure Bred Devon.

10. Barton, 17 months old, Gen. Cadwallader, ... 145 00

BUCK LAMBS.

1. Buck lamb, 3 months old, Aaron Clement, Philadelphia, 30 00
2. do 2½ months old, Ed. G. Faile, West Farms,.. 30 00
3. do 3¾ months old, Lincoln Brooks, Providence, R. I.,..... 30 00
4. do 3¼ months old, Gen. Cadwallader, ... 30 00
5. do 2¼ months old, Gen. Cadwallader, ... 25 00

SWINE.

The following pigs were dropped from 7th to 10th April last.

1. One pair of pigs, Henry Parsons, ... 37 50
2. do Gen. Cadwallader, ... 30 00
3. do Churchwell, ... 30 00
4 and 5. Two pair of pigs, G. G. Hubbard,..... 50 00
6. One pair of pigs, Capt. Spencer, Westchester,..... 20 00
7. do Thos. Hancock, Burlington, N. J., ... 20 00
8. do Henry Parsons, ... 30 00
9. do Aaron Clement,..... 27 50
10. One boar, Lewis Livingston,..... 17 00
11. do Gen. Cadwallader,..... 17 00
12. do Jas. B. Wilson,..... 17 00
13. do Thos. Hancock, ... 16 00
14. do Lincoln Brooks, ... 16 00
16. 1 sow, 9 months old, G. G. Hubbard,..... 30 00

From the foregoing it will be seen that the pure bred bulls and bull calves, four in number, averaged $126.12 per head. The Improved Dairy Stock, consisting of cows, heifers, and heifer calves, twenty in number, averaged $78.87 per head. Grade bull calves, three in number, averaged $80 per head.

Suffolk pigs, twenty-three in number, dropped from the 7th to 10th of April last, averaged as follows:

9 pair averaged per pair,.....	$27 23
5 boar pigs, per head,.....	16 60
1 sow, in pig,.....	30 00

South-Down ram lambs, dropped from 21st March to 19th April last, averaged, per head, $29.

Mr. VAIL's sale took place on the 26th of June. The attendance was not so large as at Mr. MORRIS's, though there were, perhaps, as large a number of persons who came to *buy*. The weather was highly favorable, and the company began to assemble at an early hour, and were engaged in examining the stock till noon, when they were invited to refreshments,—tables for which, bountifully loaded, were set in the house, and in the delightful grove which surrounds it. While the company was thus engaged, the cows and heifers were brought up and tied round a circle prepared for the purpose in the grove. The cows were sold first, and when the first one was brought to the hammer, it was evident that many of the by-standers were not mere lookers-on. The competition for the best animals was decidedly sharp, and the sale of the animals advertised, with the exception of one which had died, (Duke of Wellington,) was speedily wound up, as follows:

Statement of the Sale of Mr. Vail's Short-horns, June 26th, 1851.

COWS AND HEIFERS.

1. Lily 2nd., (six years old,) Gen. Cadwallader of Philadelphia, ... $170
2. Lily 3d., (three years old,) Henry Wells, Aurora, N. Y.,.. 135
3. Lily 4th., (about eighteen months old,) Gen. Cadwallader, 90
4. Lily 5th, (calved 19th March, 1851,) Gen. Cadwallader.... 165
5. Fun, (seven years old,) Henry Wells, ... 235
6. Dahlia 5th., (two years old,) Gen. Cadwallader..... 75
7. Eunice 2nd., (ten years old,) Gen. Cadwallader,..... 160
8. Eunice 3d., (eight years old,) John Osborn, Marshall, N. Y.,..... 125
9. Wild-dame 4th., (three years old,) Gen. Cadwallader,.... 225
10. Wild-dame 6th, (calved 20th Feb. 1851—sick,) Gen. Cadwallader, ... 55
11. Daisy 3d., (seven years old) S. P. Chapman, Clockville, Madison Co., N. Y.,..... 230
12. Daisy 5th., (about twenty months old,) Gen. Cadwallader, 150
13. Fillpail 5th., (about twenty months old,) Gen. Cadwallader, ... 95
14. Victoria 4th., (four years old,) Henry Wells.,..... 90
15. Rosette 2nd., (four years old,) General Cadwallader,..... 175
16. Rosette 3d., (about twenty months old,) William Osborn,. 80
17. Rosette 4th., (about ten months old,) Gen. Cadwallader,.. 105
18. Yellow-Skin, (two years old,) Gen. Cadwallader, ... 110
19. Willy, (fourteen years old,) Gen. Cadwallader,..... 90
20. Profitable 2nd., (about ten months old,) Henry Wells,.... 125
21. Victoria 5th., (about two months old,) Gen. Cadwallader,. 75

BULLS.

24. Beppo 3d., (calved 2d September, 1848,) Thos. Richmond, Esq., Gananoque, C. W..... 140
25. Leopold, (calved 6th Oct.. 1840,) Mr. Cameron, near Kingston, Canada West..... 50
26. Grand Duke, (calved 24th Feb., 1850,) John Osborne..... 95
27. Falcon, (calved 23d Sept., 1850,) Thos. Richmond, Esq., Gananoque, C. W.,..... 90
28. Marquis, (calved Aug., 1849,) Thos. Richmond, Esq.,..... 60
29. White Prince, (calved 12th April, 1851,) M. F. Yates,.... 55

HEIFER CALVES.

30. Beauty, (about two months old,) Wm. Osborn,..... 90
31. Red Lady, (about two months old,) Gen. Cadwallader, [not on catalogue,]..... 60
32. Fashion, (bull calf about six weeks old,) [not on catalogue] Gen. Cadwallader,..... 30
33. Fillpail 6th, (yearling heifer,) [not on catalogue,] ——Wilson, Esq., N. Y.,..... 90

$3520

AT PRIVATE SALE—NOT ADVERTISED.

Lady Barrington 5th, (two years and ten months old) got by Meteor out of imported Lady Barrington 3d, purchased by Aaron Clement, Esq., for T. P. Remington, Esq., of Philadelphia,..... 350

Hilpa 4th, roan, heifer calf dropped April 9th, 1851, being two months and seventeen days old, got by Duke of Wellington out of imported Hilpa, to S. P. Chapman..... 300

$4170

It will be perceived by reference to the above statement that there were 19 cows and heifers sold which brought,. ... Averaging about $160 each.	3010
7 Heifer calves brought,..... Averaging $91 each.	640
7 Bulls and bull calves brought,..... Averaging $74 each.	520
In all 33 animals, including two heifers at private sale,..... The whole lot old and young averaging $126 each.	$4170

Wrong Management.

EDS. CULTIVATOR—I saw in the Cultivator an article stating you would like to have the farmers' boys ask some questions in regard to farming. My father has taken the Cultivator some years, and I have read it very thoroughly. It seems as though I could see a new light springing up through it.

The manner in which some farming is carried on in this section of the country, seems to me to be very bad. In

taking care of stock in the fall and winter, when it is muddy and wet weather, many farmers keep their cattle out doors, instead of putting them into a good warm stable, and feeding them there. They often leave them out doors in the rain, exposed to cold winds enough to freeze a creature. They will consume a great deal more food than they will in the barn. Their cattle have to go too far after water, and when they get there, will fill their bodies to excess, and on their return they will pitch into the hay as though they had not had anything to eat for several days—frequently, they will go but once a day to water. I think a creature ought to have water as often in the winter as in the summer. I think if a farmer is able to keep a farm, he is able to have water in his farm-yard.

In sowing their grain, they will always try to be very saving of it; and then they will not put enough on to the land; and just so with their grass seed; they leave a great many spots that will not be covered. Then there will be a great chance for Canada thistles and other foul stuff to take root. I have seen a great many sow their old seed that they would collect in the barn, full of all kinds of seeds, instead of going to the seed-store and getting good seed. A YOUTH. *Bridgewater, N. Y.*

Stage for Cutting Plants for Hay.

There has heretofore been considerable diversity of opinion in regard to the proper stage at which plants should be cut for hay. It will be remembered that this journal has for several years advocated the practice of cutting while the herbage is in flower, on the principle that a greater amount of nutritious matter is then contained in the plant than at a later stage. Although the present haying season is nearly over, the following observations from the *North British Agriculturist*, will be read with advantage. The remark in regard to the value of the rowen or aftermath, we believe to be entirely correct, being supported by the experience of many of the best farmers. The remarks in regard to rye-grass, would apply equally well to most grasses cultivated for hay in this country.

As regards the common mixtures of rye-grass and clovers, the most common error is in allowing these to become *over ripe previous to cutting*. This is a most serious mistake, and one that no after management can remedy. Both rye-grass and clover as they begin to mature the seed, are converted into a woody texture, the starch and gum undergoing a change, as the seed arrives at maturity. As the seed of the rye-grass becomes matured, it drops off, during the process of forming it into hay; while that of the clover plant loses the leaves and often the flower. The wonder is, after so much has been written about the evils which result from allowing hay to become over ripe, that custom and prejudice should continue so powerfully to influence the practice of many farmers. The bulk is indeed greater, but the weight is often not increased, arising in part from the plants losing their leaves and seeds. Irrespective of the loss of the leaves and seeds, the second crop of grass is seriously injured when the first crop is allowed to stand beyond the proper period.

There is a very common mistake as to the nutritiousness of a second crop of hay. For fattening, second crop clover if properly saved, is superior to the first crop, if the summer and harvest months have been propitious. The propriety of cutting grass at the proper period of ripeness is not alone dependent on the first crop. The value of the second crop necessarily forms an important element in determining upon early cutting, and the weight of the two crops should always be taken into account in forming an opinion of the relative profitableness of the one over the other. As a rule, all grasses intended for *hay* should be cut as soon as the pollen of the flower is observed to rise in a gentle breeze in a cloud of dust from the field; this will be about three weeks after the heads of the grass have burst out of the hose.

The Locust.---Cicada Septendecim.

This interesting insect has appeared the present season, in several districts of the country. It has long been known that its period of appearance, once in seventeen years, did not occur in the same year everywhere, but that it is seen in different places in different years. The fact, though singular, has attracted but little attention till lately, and it has, indeed, been doubted by many persons. To Dr. G. B. SMITH, of Baltimore, Md., the public is indebted for the result of some very close and thorough investigations in regard to the habits of these insects, which have not heretofore been well understood. He says—

"I have the particulars of twenty-eight districts in the United States, in each of which these insects appear every seventeen years; but each district has a different time for its appearance from that of any neighboring district. For example, the locusts appeared about Richmond, and east of the Blue Ridge in Virginia, in 1843, and will appear there again in 1860; while on the west of the Blue Ridge they appeared in 1844, and will appear again in 1861. So it is over the whole of the United States south of latitude 44°, north of which I have not yet heard of their appearance. I have no doubt that they appear throughout the west as far as the shores of the Pacific. I have the fact of their appearance at Independence, the western limit of Missouri. In some one part of the American territory, they appear no doubt, every year. I have only been able to get authentic accounts of their appearance in fourteen out of the seventeen years."

Dr. S. thinks the locust does not pass from one district to another; that though it can fly, its flight is limited. In general, rivers and mountains are boundaries of these districts; but very high winds, it is thought, sometimes drives it a considerable distance, even across rivers. With this exception, he thinks they will not pass over a river an eighth of a mile wide. Still he thinks they will ultimately appear once a year over the whole country, "in consequence of the mingling of the districts by the insects being wafted by the winds from one to another."

Dr. S. has critically examined the insect in all its stages. He has found that the eggs, which are deposited in the limbs of trees, hatch (in the latitude of Baltimore,) about the 25th of July—having been deposited from the first to the 25th of the previous month. The young insects, as soon as hatched, come out of the branch of the tree, drop to the ground, and immediately work their way into it, where, as stated by Dr. S. "they attach themselves to the tender roots of grass and other vegetables,"—sucking the moisture which exudes from the roots. He states that with a good magnifying glass, it can be seen that "the young insect has every feature and member precisely the same as the large one had when he came out of the ground in the spring."

Dr. S. mentions that pigs and fowls are very fond of locusts, and eat large quantities of them as soon as they appear above ground. "So fond," he says, "are the fowls, birds, and pigs of these insects, that they will

scarcely touch other food during the locust season. This has a remarkable effect on the hen's eggs laid after the locusts appear—their yolks are nearly all *white*. The chickens become very fat and of fine flavor."

Col. Sherwood's Stock.

On another page of this number, (272,) is a cut of the Short-horn bull "Earl of Seaham," whose pedigree has been furnished us as follows:

(10,181.) Roan; calved April 21, 1848; bred by JOHN STEPHENSON, Esq., Wolviston, county of Durham, England; imported 1850, by A. STEVENS and J. M. SHERWOOD; got by Earl of Antrim (10,174;) dam, Primrose, by Napier (6238;) grandam, Rose Ann, by Bellerophon, (3119;) great grandam, Rosette, by Belvidere (1706;) gr. gr. grandam, Red Rose, by Waterloo (2816;) gr. gr. gr. grandam, Moss Rose, by Baron, (58;) gr. gr gr. gr. grandam, Angelina, (bred by Sir Henry Vane Tempest,) by Phenomenon (491;) gr. gr. gr. gr. gr. grandam, Anna Boleyn, by Favorite (252;) gr. gr. gr. gr. gr. gr. grandam, Princess, (bred by Robert Colling,) by Favorite (252;) gr. gr. gr. gr. gr. gr. gr. grandam, Brighteyes, by Favorite (252;) gr. gr. gr. gr. gr. gr. gr. gr. grandam, Brighteyes, (bred by Alexander Hall,) by Hubback (319;) gr. gr. gr. gr. gr. gr. gr. gr. gr. grandam, Brighteyes, by Snowdon's Bull (612;) gr. gr. gr. gr. gr. gr. gr. gr. gr. gr. grandam, Beauty (bred by Thomas Hall,) by Masterman's Bull (422;) gr. gr. gr. gr. gr. gr. gr. gr. gr. gr. gr. grandam, Duchess, of Atholl, by Harrison's Bull (292;) gr. gr. gr. gr. gr. gr. gr. gr. gr. gr. gr. gr. grandam, Tripes, (bred by C. Pickering,) by the Studley Bull (626;) gr. gr. gr. gr. gr. gr. gr. gr. gr. gr. gr. gr. gr. grandam, (bred by Mr. Stephenson, of Ketton, in 1739,) See 9th vol. Herd Book, pages 65 and 526.)

This is unquestionably a valuable bull. His points, both as regards shape and handling, indicate properties which are highly prized in this breed of cattle. He has a small, neatly turned head, with a bright, mild eye; the head handsomely joined to the neck, which rises handsomely from the shoulders. The chest is remarkably capacious for an animal of his age—being full and round in front. His crops and chine are hardly equal to his other points, but his back is generally level, his ribs broad and gradually swelling from the shoulders towards the hips; the loin wide; the hips large and round; the rump long; the flanks deep and full, and the hind quarter altogether well developed. His hide is of good substance, and elastic. His general form is compact, giving great weight for the apparent size. We saw him weighed on the 2d of July, and his weight was 1,952 lbs. He received the first prize of the New-York State Agricultural Society in 1850, as the best two-year-old Short-horn bull; also the first prize for Short-horn bulls at the show of the American Institute, 1850. We are informed that he is for sale. He may be seen at Col. SHERWOOD'S farm, Auburn, N. Y.

The public are aware that Col. SHERWOOD has taken much pains to improve his stock of cattle. His herd of Short-horns was formed in the first instance, from animals selected from several herds of note in this country. Latterly he has made some direct importations. One of the first of those was the bull 3d Duke of Cambridge, bred by the late THOS. BATES, Esq., imported in 1849. This animal received the first prize at the State Fair at Syracuse, and was shown in the "extra" stock at the Fair at Albany. Col. S. has now on his farm thirteen of the progeny of this bull—eleven of which are full bloods. They are from a few weeks to about one year old. In points they are mostly very fine—evincing a decided improvement in symmetry, tendency to early maturity, and what is technically termed *quality*, over Col. S.'s former stock. This bull, though now in his tenth year, has all the vigor and sprightliness of the prime of life, and he bids fair to continue his usefulness several years.

Col. S. has several other imported animals, which are from the herd of Mr. STEPHENSON. Among these a cow called Red Rose 2d, deserves mention. She was calved Nov. 1846—was imported in the autumn of 1849. She has had two calves, both heifers—one dropped Oct. 22d, '49, the other May 2d, '51. Col. S. gave us an account of a trial which was made with her milk the present season, from the 20th of May to the 19th of June—30 days—as follows: The milk was weighed at each milking—kept by itself, the cream taken from it and made into butter—the churning being done twice a week, and the produce of each churning weighed. The weight of milk was 37 lbs. (probably equal to 18 quarts) per day, and the aggregate amount of butter for the 30 days was 60¼ lbs. We had several opportunities of tasting a sample of the butter, and it was of superior quality.

Both the calves which this cow has produced, are very fine. She is, herself, a cow of excellent points—perhaps a little too "fine drawn" in the head and neck; but the general proportions of her body are very good, and her indications for the production of butter, are seldom surpassed.

Agricultural Publications.

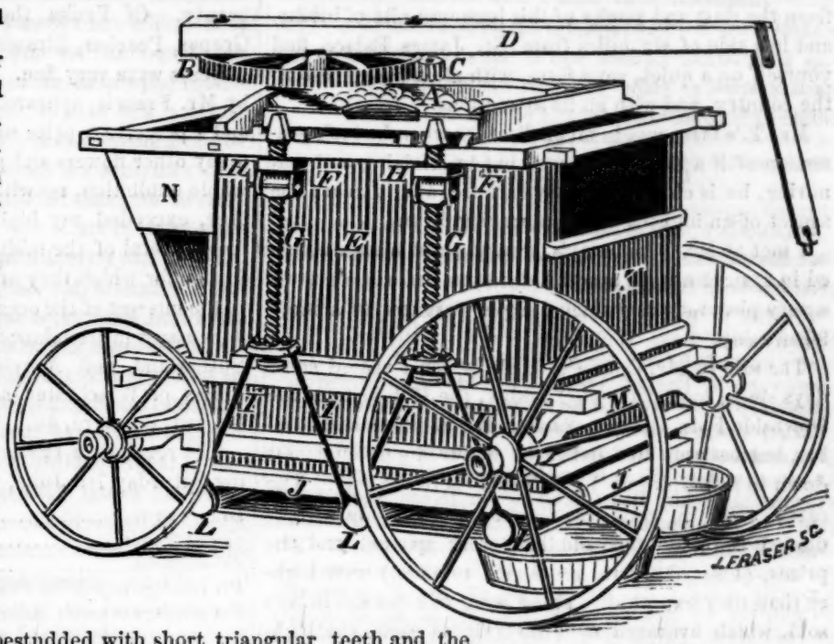
EDS. CULTIVATOR—If farmers would read and put in practice the teachings contained in The Cultivator and other periodicals, they could hardly fail of making progress in agricultural knowledge. From reading some of the early volumes of The Cultivator and Genesee Farmer, I was induced to change from a shallow, to a deep and thorough system of cultivation—paying particular regard to drainage, and the saving and application of manures—which have more than doubled the products per acre; and not only so, it has rendered the products measurably sure, and failures that were heretofore charged to the seasons, were found to be chargable to the method of cultivation.

I have mentioned the sources to which I am mainly indebted for the progress that I have made in agricultural improvement at this time, for the reason that of late we not unfrequently see it stated that eastern agricultural papers are not adapted to our wants—that they are not calculated for this latitude. Now whilst we admit the merits of our western papers, and are from duty and interest bound to sustain them, it is not admitted that eastern papers are not adapted to our wants; for we believe that wherever they are read, and what they teach is put in practice, they will answer for this or any other latitude where the cultivator of the soil is desirous of improving in his business. LINUS CONE. *Troy, Oakland county, Mich., June* 25, 1851.

TO PREVENT OXEN FROM CROWDING, it is only necessary to lengthen the yoke, often, in extreme cases, from 12 to 18 inches longer than those usually worn.

Chapin's Portable Cider Mill

This machine is designed for travelling over the country and making cider in the orchards. It was invented by Mr. N. Chapin, of Syracuse, N. Y., as an improvement upon his former mill of a similar character.



The annexed figure represents a perspective view of the large mill, which is to be conveyed and operated by horse power. The apples are placed in the hopper at A. B is a 42 inch spur-wheel which mashes with the pinion C, so that when a horse is attached to the sweep D, the grinding is done by a pair of cast-iron circular plates, about 20 inches in diameter, placed in a horizontal position in the upper part of the press-crib E. Both plates are bestudded with short triangular teeth and the under one is perforated with numerous small holes for discharging the pumice, that being sufficiently ground before it reaches the periphery of the plates. The press-crib E is constructed of slat-work, 3 feet by 5, and 4 feet high, constituting the main bulk of the machine.

When the crib is filled with pumice and frequent layers of straight straw, moistened with water, planks are placed over the pumice, and and under the press-beams, which pass through the crib at F F, having broad iron bars, like tenons, projecting through the slats that intersect the screws G G by embracing the nuts H H between them. The stirrups I I suspend the platform of the press J J to the end of the four screws, so that the screws can neither rise or fall when turned, but the nuts, beams and press-plank are all forced down, thus contracting the pumice into the lower part of the crib, forcing the cider through on all sides, which is conducted to the tubs by a channel in the margin of the platform J J.

After the pressing is finished, the tubs and rear grate K are removed, and the cheese is disposed of by detaching the stirrup from the stringers L L and letting the platform and cheese to the ground. The platform is similar to a sled with the cheese upon it, which is drawn out under the rear axletree M by a horse and left clear from the mill.

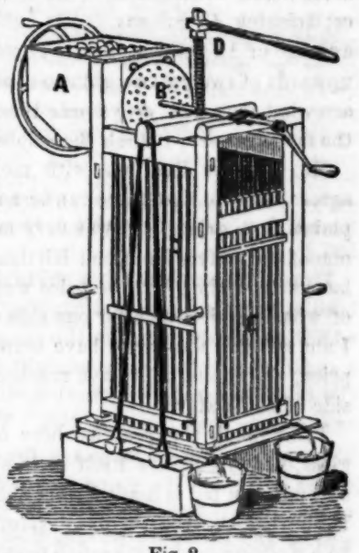


Fig. 2.

Fig. 2 represents a variation of the same thing, expressly adapted to hand power. A is the hopper containing the apples, B are the grinding plates, the same as are in the large mill, except their position is vertical instead of horizontal. The small dots represent holes in the running plate, which assist in grinding and discharging the pumice into the press-crib C for pressing. D is the screw and lever by which the pressing is done; E is a moveable door of the crib for removing the cheese after pressing.

This machine has two cranks, one in front and another attached to a fly-wheel in the rear of the hopper, so that the power of two or more men may be applied to grinding the apples. The machine is moved from one place to another by means of handles. See Mr. Chapin's advertisement in this number.

Letter from B. P. Johnson, Esq.

London, June 12th, 1851.

Eds. Cultivator—Since I last wrote you, I have visited the farm of Mr. Tanqueray, a distiller in town, who has amassed quite a fortune, and has selected a farm of a few hundred acres about six miles from town, which he is putting in excellent order, and on which he is raising a fine herd of Short-horns. Mr. Tanqueray is getting together the "*Nell Gwynns*," and has now about 20 of them of undoubted character—the largest number of that strain of cattle owned by any one person. They are very uniform in their appearance, and of marked and distinctive character, and so far as Mr. T. has tested them, prove of good milking character. He had six brought home the day previous to my visiting his place, which Mr. Strafford bought for him in Preston, or near that town. It is Mr. T.'s intention, I believe, to keep this breed, and he is now crossing his cows with some good bulls—using "Lord Durham" this season—a very compact, fine bull, well suited, I should judge, to his cows. Mr. T. is very spirited, and will, I doubt not, soon obtain eminence in his new enterprise. He, like Mr. Harvey Combe, has entered into the matter of breeding "con amore," and I should presume, from their energy and enterprise, that they will leave no means untried that will probably lead to a successful result. It is a work of time and money to become a successful breeder; but these gentlemen have the means, the energy, and from what I can judge, the capability to succeed.

Mr. T. has some very promising young animals, and I believe he intends to increase his "Gwynns" until his heard will be of that strain. His breeding farm is in good order, considering the short time he has had it under his care, and it is really most exhilerating to escape

from the dust and smoke of this immense pile of bricks, and in a ride of six miles from St. James Palace, find yourself on a quiet, snug farm, with all the freshness of the country, and with all its attractions.

Mr. T.'s farm was in much disorder when he took possession of it a few years since; but by draining and manuring, he is changing its appearance, and it wears the aspect of an improved and improving farm.

I met at Mr. Tanqueray's, several gentlemen interested in agriculture, as practical farmers, and the visit was a very pleasant one, which I hope to renew at a more leisure day.

The sale of Mr. Combe's stock, which I visited some days since, took place on Tuesday, the 10th inst., at the Downside Fair, Cobham Park. The day was unfavorable, but between two and three hundred gentlemen sat down to a sumptuous lunch previous to the sale. The cattle were in good condition. Mr. Strafford conducted the sale. The biddings were spirited, and the prices, (I heard several gentlemen remark,) were higher than they expected. There were 28 cows and heifers sold, which averaged over 30 guineas each, the highest bringing 49 guineas. Six heifer calves realized an average of 18 guineas each. Three bull calves brought upwards of twenty-two guineas each. Considering these are what they call *free trade* times, very disastrous to the farmers here, I think the sale was an excellent one.

Mr. Thomas Bell was with me at the sale, and he agrees with me that there can be no good ground of complaint as to prices. I was very much disposed to buy one of the heifers for friend Kirtland, as I think it would have suited him; but the price went far beyond my idea of what was desirable for our side of the water—though I am satisfied she would have been much cheaper at the price, than many that have reached our shores from this side of the water.

I like much the practice here of using a little sand-glass, which empties itself in less than half a minute, and unless a bid is made before the sand is run, the last bidder has it. It expedites wonderfully, and brings men to a decision, and saves much trouble. I met Mr. Jonas Webb and several other gentlemen of distinction, who are known for their interest in breeding.

Horticultural Show at Chiswick.—On Saturday last, 7th of June, the second Horticultural Exhibition for the season took place at Chiswick. The day was somewhat damp, and with occasional rain in the early part of the day, but the attendance was estimated at ten thousand, and I should suppose at least that number must have been present during the afternoon. The show is said to have been one of the best the society has held—certainly it was one of extraordinary richness in all its departments. Some extraordinary Pitcher plants from Messrs. Vietch, of Exeter, and some Cacti from Lady Antrobus, attracted very great attention. In connexion with the usual exhibition, was an American exhibition, by Mr. Hosea Waterer, the original grower of Rhododendrons, which was very fine—in fact some of the groups of Rhododendrons and Azaleas, were unsurpassably beautiful. The display of Pelargoniums, Pinks, Pansies, Calceolarias, both new and old varieties, was uncommonly rich. The collection of green-house plants, was very extensive, and many of them of uncommon richness and beauty. Of Fruits there were choice Pine-apples, Grapes, Peaches, Strawberries, &c.

Roses were very fine. The Yellow Persian, exhibited by Mr. Francis, appeared to me of uncommon beauty, and I perceive a prize was awarded to it. There were many other flowers and plants of great beauty—and the whole exhibition, notwithstanding the unfavorable weather, exceeded my highest anticipations. The music from several of the military bands was given in the perfection for which they are celebrated, and added much to the interest of the occasion. Among the distinguished personages in attendance, were the Duchesses of Orleans, Sutherland, and Argyle. The Count of Paris, Marquises of Winchester, and of Tweeddale, Lords John Russell, Blantyre, &c.

The receipts of the Crystal Palace, up to and including Saturday 7th June, were as follows:

Daily Visitors,		£71,421 03
Season Tickets,		65,976 15
Subscriptions,		64,344 00
For privilege to print the Catalognes,		3,200 00
For privilege to supply Refreshments,		5,500 00
		£210,441 18
Liabilities—		
Building,	£130,000 00	
Management, printing, &c.,	25,000 00	
Police,	10,000 00	
Prize Fund,	20,000 00	
		185,000
June 7th, surplus on hand,		£25,441 18

There are a variety of projects on hand to dispose of the surplus. But I have heard no one, as yet, suggest what I think should be done—pay the exhibitors the expense they have incurred in getting up the show, especially those from foreign countries and from England, those residing out of London and its vicinity. I have no hopes, however, of any such course being adopted—far more likely to get all they can to embellish the Park, or create a permanent fund to keep up the building, and open it as a public promenade, with plants, &c.

I am in receipt of papers and letters by the Cunard steamer just arrived. I notice several letters from this side are published, some of which, of an early date and official character, have been quite unfortunate in the character assigned to our exhibition. As the reality does not come up to the statements made,—the London journals, the "Times" especially, have taken occasion to charge upon the country at large, this, to say the least of it, boasting description of the American contributions, as entirely characteristic of our country. My own impressions, which have been strengthened by every day's observation here, are that if a little patience had been observed, until our exhibition was fully opened and arranged, it would not have elicited such a series of ill natured remarks, as have characterised the journals here—particularly the "Times" and "Morning Chronicle." I do not imagine any serious injury will result to our country. I think it will all be productive of benefit in the end; it however renders it very unpleasant for the exhibitors here to be constantly met with the sneers of those who, taking their cue from these journals, have not brains enough, many of them, to know what things are really valuable and useful in our collection, and what not. The Times, which I send you, of the 10th, has one

of these snarling articles, which is unworthy of the paper, but which is *suited* to the market for which it is written—and which may give some of our people, an idea of what the *real* feeling is among those who manage affairs here.

In our minister here, Mr. Lawrence, we have a representative who, in my judgment, does great credit to his country. No one can be more indefatigable in his endeavors to promote the best interest of his country, and his attention to his countrymen, and his endeavors to facilitate them in all their movements here, entitles him to the warmest commendations. He has been unceasing in his efforts to further the great objects of the exhibition; and if it shall not prove in the end, all that it was hoped it might have been, it will not be from any want effort on his part, in every respect commensurate with the great work. I feel under very great obligations to Mr. L. for his constant endeavors to facilitate my labors in every direction. Truly yours, B. P. JOHNSON.

The Patent Office Report.

AGRICULTURAL DEPARTMENT,
U. S. Patent Office, July 5, 1851.

EDITORS OF THE CULTIVATOR—Gentlemen: In your remarks on the Report of the Commissioner of Patents for 1849–50, you say, "We should have been much interested with many of the articles, had we not read them before in the Southern Cultivator and Genesee Farmer, which had been made the medium of giving them to the public before the report was issued."

The above statement is a mistake. No part of the report named was printed in any journal before it was submitted to Congress and became a public document, and accessible to the press generally. The New-York Tribune and Washington Republic copied a few chapters from this public document, and from those daily papers a part was copied into the Genesee Farmer and Southern Cultivator. The report was not "issued" from the press of the public printer till many months after it had left the Patent Office.* The report for 1850–51 has been a public document over four months, and yet not a line of it has appeared in the Genesee Farmer or Southern Cultivator; although I have been anxious to find time to copy for the last named journal, a very able essay from the pen of one of the Editors of the Albany Cultivator, which this report contains.

By publishing the above you will oblige me, and correct an error. Yours respectfully, DANIEL LEE.

* We are unable to discover the "mistake" to which our correspondent alludes. We are not informed as to the precise time when the report was "issued." We received the only copy to which we have had "access," in June last, and saw the document for the first time only a few weeks previously. How it could be "accessible to the press generally," till it was regularly "issued" or circulated, is not understood. In the *Genesee Farmer* for June 1850, is an article, ostensibly original and *editorial*, entitled "A General View of American Agriculture." This article is entirely an abstract of Chapters I and II, given in the report, pp. 22–28. Not a word is said about its being "copied" from the "New-York Tribune," "Washington Republic," or any other work. This was *one year* before the document was "accessible to the press generally." In the same periodical, for July 1850, that part of the document embraced in pp. 6–13 is given under head of "Patent Office Report—Part II," with the signature of Dr. LEE. We cannot particularly refer to the articles which appeared in the *Southern Cultivator*, not having the files at hand.

Cattle Shows and Fairs this Autumn.

STATE EXHIBITIONS.

NEW-YORK.—To be held at Rochester—all articles to be entered and to be on the ground before 12 o'clock on *Tuesday, Sept.* 16. On *Wednesday* the exhibition will be open only to the Judges, Guests and Members of the Society—(any person can become a member by the payment of $1.) On *Thursday* and *Friday*, it will be open to all. Tickets of admission, 12½ cents.

VERMONT.—In pursuance of a call made by over two hundred of the agriculturists and raisers of stock in this State, a public meeting was holden at Middlebury, on the 16th June, 1851, at which it was resolved that a State Fair be holden at Middlebury, on the 10th and 11th days of September next. The main object of the Fair is to make an exhibition of our stock, our cattle, our horses, and our sheep. The public may be assured that the best specimens of Black Hawk colts, Morgan, Hamiltonian, and Eclipse stock, and of French and Spanish Merino, and other breeds of sheep, the best Durham, Ayrshire, Hereford, and Devonshire cattle, will be exhibited, and also the best specimens of native cattle, including oxen, cows, and young cattle. Officers and committees were appointed to carry the above resolution into effect—President, Hon. F. HOLBROOK, Brattleborough—Secretary, Maj. E. R. WRIGHT, Middlebury.

NEW-HAMPSHIRE.—The State Fair is to be holden at Manchester—time not stated.

GEORGIA.—At Macon, in October.

OHIO.—At Columbus, Sept. 24th, 25th, and 26th.

PENNSYLVANIA.—At Harrisburgh, in October.

State Fairs are also to be held in *Maryland*, *Michigan*, and *Rhode Island*, but at what times and places we are uninformed.

NEW-YORK COUNTY SOCIETIES.

ONEIDA.—At Utica, Sept. 9, 10, 11, and 12.
SARATOGA.—At Mechanicsville, Sept. 9, 10, and 11.
ESSEX.—At Elizabethtown, Sept. 17 and 18.

THE NEW POSTAGE LAW, which went into effect on the 1st of this month, (July,) fixes the rates as follows:

I. LETTERS.—Letters of half an ounce or under, not over 3,000 miles, pre-paid, 3 cents—not pre-paid, 5 cents. Each additional half ounce, at the same rates. For any distance exceeding 3,000 miles, double these rates.

Sea Letters.—For any distance over 2,500 miles, when carried wholly or in part by sea, 20 cents the half ounce, and for any distance under 2,500 miles, 10 cents.

Drop Letters.—Letters placed in the post-office for distribution only, one cent.

Advertised Letters, one cent extra.

II. NEWSPAPERS.—Weekly papers, not exceeding three ounces in weight, in counties where published, free.

Out of the county, under 50 miles,....	20 cents	per year.
Between 50 and 300 miles,.....	40 "	"
" 300 and 1,000 miles,.....	60 "	"
" 1,000 and 2,000 miles,.....	80 "	"
" 2,000 and 4,000 miles,.....	1.00 "	"
Over 4,000, miles,.....	1.20 "	"

Semi-weekly, double—tri-weekly, treble—and daily papers, five times the above rates.

Monthly papers, one-fourth, and semi-monthly, one-half the above rates.

III. OTHER PRINTED MATTER.—On each circular, engraving, hand-bill, pamphlet, periodical, magazine, book, and every other description of printed matter, as follows:

For 500 miles or under,.....	1 cent	per oz.
Between 500 and 1,500 miles	2 "	"
" 1,500 and 2,500 miles,.....	3 "	"
" 2,500 and 3,500 miles,.....	4 "	"
Exceeding 3,500 miles,.....	5 "	"

Important Provisions.

1. "Subscribers to all periodicals shall be required to pay one-quarter's postage in advance; *in all such cases, the postage shall be* ONE HALF *the foregoing rates.*"

II. The postage on all printed matter, other than newspapers and periodicals, to be PRE-PAID.

III. Bound books, and parcels of printed matter, not weighing over 32 ounces, shall be deemed mailable matter.

NOTES FOR THE MONTH.

Acknowledgments.—Communications have come to hand, since our last, from S. W. Johnson, Linus Cone, A Young Farmer, H. B. D., Thomas W. Field, W. R. Sanford, Prof. J. P. Norton, A Subscriber, J. W. Proctor, S. T. Atherton, S. S., Old Man of the Mountain, D. D. Devoe.

"Joint-Worm" in Wheat.—We have received a communication from Alex. Rives, Esq., of Carlton, Albemarle co., Va., describing the ravages of an insect known under the above name. Specimens of growing wheat, containing the insect were enclosed in Mr. R.'s letter. These we forwarded to Dr. Fitch, for examination, but we have not yet heard from him on the subject. We notice some remarks on this insect in the July number of the *Southern Planter*. The writer of that article says he has heard that a similar insect appeared a few years since in Dutchess county, N. Y., and appeals to us to know if this is a fact. In reply, we can say we have never seen or heard of the insect in this part of the country. We shall, however, doubtless have all that is known in regard to it from Dr. Fitch, whose observations we hope to receive to accompany Mr. R.'s communication in our next number.

Destructive Insect.—In a late visit to Onondaga and Cayuga counties, we were struck with the appearance of many of the orchards, and in some instances of woodlands, which had been overrun, and the foliage eaten by a species of caterpillar. We learn that this insect prevailed to some extent in the districts named, last year, and that the fruit of some orchards was destroyed by it; but it is a singular fact, that the localities where it appeared most numerously last year, are this year nearly exempt from their ravages—they seem to move on every year, to territory before unoccupied. It is evident, however, that they produce much injury, as the orchards where they prevailed last year, have failed to produce fruit, both that and the present season—the insect having actually destroyed the former crop, and so injured the trees that they were incapable this season of producing fruit. The caterpillar is not particular as to its food, as it devours the leaves of most kinds of deciduous trees which it meets with, such as elm, maple, oak, beech, apple, pear, &c. In some instances it this year devoured all the foliage within its reach, and, taking to the fences and other objects, died in myriads, before it passed into the chrysalis state. In size, the larvæ resembles the common apple-tree caterpillar, and is not unlike the latter in general appearance, though the two are evidently of distinct species. The apple-tree caterpillar congregates in webs or "nests." The other spreads over the whole tree, and does not shelter itself under a web. The larvæ spins a cocoon, and is transformed to a brown moth, with a black head. It is a trifle larger than the common caterpillar moth. The insect is new to us. We hope it will receive attention from entomologists.

The Wheat Crop in Virginia.—Micajah Davis, Esq., of Lynchburg, Va., writes under date of July 8th—"Our farmers have harvested their wheat in fine order, and though the crop is hardly an average in quantity, (much of it having been winter-killed,) it is of very fine quality—probably never surpassed, and rarely equalled. We are now suffering much from want of rain. The oat crop has been much curtailed by drouth, and corn and many vegetables are now suffering intensely."

Crops in Georgia.—Richard A. Benson, Esq. of Macon, Ga., writes under date of June 30th, as follows: "We have had an unusual drouth throughout most of this state, until very recently. We now have copious showers. The oat crop is almost an entire failure—fall oats only succeeding at all. Corn is improving since the rains. The wheat crop is better than in several previous years. Sweet potatoes will be scarce, most of them dying in the 'beds.' Cotton looks small and badly, and the prospect for a crop is gloomy. We never have had more fruit. Water-melons have been in market for several weeks, and peaches and apples are ripening."

Rambouillet Sheep.—We have received, too late for this number, a communication from S. W. Jewett, Esq., of Weybridge, Vt, in relation to the French Merino Sheep, of which he has lately made an extensive purchase in France. Mr. J. will, we hope, furnish for this journal, a series of articles embracing his notes of agricultural matters, taken while in Europe.

The Potato Disease.—We tender our thanks to Hon. John W. Proctor, Danvers, Mass., for a communication enclosing a letter from Prof. T. W. Harris, of Harvard College, in relation to insects which attack the potato. Prof. H.'s remarks are very interesting, and show clearly that (as we have always maintained,) the potato disease has no connection with insects. We regret that the article did not reach us in time for this number. It will be given in our next.

Downing's Seedling Rhubarb.—In the proper season for using this plant, we received from Mr. James Wilson, of this city, a specimen of this variety, orginally grown from seed by Mr. Charles Downing, of Newburgh, N. Y. We think it superior to any kind we have ever seen. In color and texture it resembles the Early Red, but is far more productive than that variety, while it is fully equal, or perhaps better, in quality.

Correction.—In our June number, (page 212,) we gave a paragraph in reference to the growth of a pear tree, in the garden of Linus Cone, of Oakland county, Michigan—the statement there made having been communicated to the *Michigan Farmer*. We have received a letter from Mr. Cone, correcting a mistake in the article. The word "diameter" which occurs in reference to the size of the tree, should have been *circumference*.

Do Toads Eat Strawberries?—According to the "official" report of a late discussion by the "American Institute Farmers' Club," given in the New-York *Mirror*, Prof. J. J. Mapes said, "Toads are very fond of Strawberries, and select the best for their own eating." This, as is said of other things sometimes found in print, is "very important *if true*." Toads have often been spoken of as useful in gardens, on account of their destroying insects, and being, besides, entirely harmless to vegetation. The singular trait which Prof. M. attributes to them is new, and as his statement may have the effect to banish these useful little animals from grounds where they have heretofore been admitted, we take the liberty of offering in their favor the plea of "not guilty," to the above charge. The only authority to which it is convenient to refer at this time, is Dr. De Kay. In the *Natural History of New-York*, he says of the "Common American Toad"—"We must not overlook its value in diminishing the number of noxious insects. * * * It is a timid, inoffensive animal, and has even been domesticated. * * * They live upon insects, earth-worms, &c., which they always seize when in motion, refusing to touch any dead food."

Seedling Apple.—Mr. Wm. Wilson, of West Milton, Saratoga county, has left with us a specimen of an apple which originated on his farm—the original tree having died five or six years ago. It is a small-sized, fair apple, evidently a long-keeper—the specimens being perfectly sound on the first of July; but it is not of superior quality, from its want of juiciness and flavor.

Devon Cattle for Massachusetts.—Three Devon heifers, designed for Hon. B. V. French, of Braintree, Mass., lately passed through this city. One was two years old, and the others were yearlings—the former bred by H. N. Washbon, the latter by James Blackman, Butternuts, Otsego county, N. Y. They are decidedly fine animals, and will be a valuable addition to Mr. French's herd, which before comprised some very superior Devons, formerly procured by the officers of the Massachusetts Society for Promoting Agriculture, from the celebrated herd of the Earl of Leicester.

Materials for Manure.—August is usually the driest month of the year, and consequently most favorable to the reclamation of wet lands, and to the excavation of "muck" for manure. Every farmer should provide subtances of some kind for absorbing the liquids of his stables and yards. Straw, or litter of any kind will answer for this purpose, but all farms do not afford this material in sufficient quantity. We have often recommended the use of muck, or peaty earth, for this purpose, but the neglect of this substance—either from a want of a knowledge of its value, or some other cause—induces a repetition of the suggestion. Muck varies greatly in value, but all is more or less valuable—especially as an absorbent of urine. It is, in many instances, a good manure of itself. The deposits of small swamps, usually covered with ash trees, surrounded by high lands, are often of this character. The muck contains less acid than that commonly found in swamps where evergreens grow. We have lately heard the

testimony of some of the best farmers in Columbia county, N. Y., to the effect that a compost made of equal parts of muck from an ash and elm swamp, with barn-yard or stable manure, would produce greater effects, and better crops, for any length of time, than an equal quantity of clear manure. We will not pretend to say what is the principle contained in this substance, which produces these effects—whether it is the carbon which is ultimately combined with oxygen, and forms carbonic acid, and thus feeds the crops, or any other cause, is of secondary consequence to the farmer, so long as the effects are produced—and of these there is no doubt.

KEEP UP THE WAR AGAINST WEEDS.—The war which all farmers should wage against weeds, should be one of extermination. Hence it should be continued to so late a period in the season that there can be no chance for them to form seeds. If they grow so much among crops that they cannot be dug up, or pulled up, cut them off before the seed matures. The more closely this labor is followed up, the lighter will the labor be, year after year, and the better will be the crops, from not being injured by their enemies. It will pay well to mow stubble fields in autumn. Sometimes the herbage which is obtained will afford a very good fodder for winter, as a change either for cattle or sheep. The bitter plants which frequently constitute a great part of the growth, serve as condiments to assist digestion and promote the appetite. Packed away with straw in alternate layers, they will not spoil by heating, and will impart a relish to the straw. But the greatest advantage of cutting the weeds which grow in stubble, is to prevent them from seeding the ground, and to clear them off out of the way of the crop of grass or clover the next year. A horse-rake can be used to gather the crop.

DRAIN TILES.—By Messrs. BABCOCK & Co.'s advertisement it will be seen that he is now making tiles on an extensive scale, and we trust they will be able to supply the great and increasing demand for them. We are informed that many persons who have not used tiles for draining, have an idea that it is necessary to connect the ends by passing one tile into another. This is not at all necessary. The following are the directions which Messrs. B. & Co. give, and which may be safely followed: "The ditch should be formed wedge-shaped, and dug from 2½ to 3 feet deep, and should be smooth on the bottom, with a proper descent. The tiles are simply placed end to end; wedged a little on the sides, if necessary, to keep them in line; the top of the joints covered with a sod, *turned grass side down:* if sods are not at hand, use shavings or straw for a covering. Water will find its way through the joints: experience will prove that you can not keep it out. In wet lands lay the drains 25 feet apart; other locations, from 30 to 50 feet. On soft bottoms, lay under the Tile a narrow board, and fill up the ditch with earth."

ANSWERS TO INQUIRIES.

BEST CLIMBING ROSE.—H. B. D., Middletown, Ct. The Queen of the Prairie and Baltimore Belle, will be found preferable. They may be set either in autumn or spring.

LICE ON CATTLE.—Young Farmer. Unguentum, a preparation of mercury, is most effectual in destroying vermin on cattle, but it is not a safe remedy to be applied to stock running at large, because if they get wet under its operation, it is liable to produce salivation and weakness of the limbs, &c. Oil, or any kind of grease, will kill the vermin, so far as it comes in actual contact with them. Tobacco decoction will also kill them, but is liable to sicken and weaken the stock for a while. Everything considered, whale oil, is perhaps, the best application. It should be put on those parts of the body where the vermin attach themselves in the greatest numbers.

SCOURING IN CALVES.—The cause of this disease is often indigestion—dyspepsia. In its early stage it may generally be cured by chalk—allowing the animal to lick from a lump whatever it chooses. If the attack continue, give castor-oil, in doses equal to those usually administered for adult persons. This will cleanse the intestines, and in most cases will check the disease.

AGRICULTURAL BOOKS.—Norton's "Elements," and most of the Agricultural Books advertised in the Cultivator, can be had at this office.

WEAKNESS OF THE SPINE IN PIGS.—A Subscriber, Berks county, Pa. Weakness of the spine is sometimes an indication of weakness of constitution, and is often very prominent in animals which have been bred from parents having this tendency. It is a serious defect, and should either be corrected in the stock in which it appears, by a "strong cross," or the stock should be given up altogether. There is, however, a weakness of the back which is different from this, and is caused by what is called the "kidney-worm." The animal drags its posterior parts, as you describe. The best remedy we have known, is to feed with corn soaked in lye of wood ashes.

NEW PUBLICATIONS.

HARPER'S NEW MONTHLY MAGAZINE.—The number of this magazine for July, is particularly rich and excellent both in its illustrations and matter. It opens with an article on "Our National Anniversary," by B. J. LOSSING, embellished with beautifully engraved portraits of the Revolutionary Fathers, with brief sketches of their characters, a copy of the Declaration of Independence, and fac-similies of the original signatures. Next we have an article on life-boats and life-cars, by JACOB ABBOTT, with eleven excellent illustrations. There are also many other interesting and valuable articles in the number—particularly one on the Eclipses of the month of July, 1851, by CHARLES COLBY, of the Cambridge Observatory,—and those on the Solar System, Somnambulism, &c. Published by HARPER & BROTHERS, 82 Cliff street, New-York.

PICTORIAL FIELD BOOK OF THE REVOLUTION.—Nos. 14 and 15 of this excellent work have been received. The former comprises principally historical incidents connected with the State of Rhode-Island and its vicinity. Its illustrations are of a highly interesting character, and, as usual, are executed in the finest style. Among them is the Old Tower at Newport, Head Quarters of the British General Prescott, Scene of the Battle on Rhode-Island, in 1778, Portrait and Sign-manual of King Philip, Gen. Washington's Head Quarters at Newburgh, &c. No. 15 brings down the history to the capture of Andre. This number abounds with fine illustrations representing various points of interest on the Hudson, especially the old fortifications at West Point and vicinity, some of which are among the best the work has contained. This work ought to be in every family in the United States. The author is BENSON J. LOSSING, and the publishers are HARPER & BROTHERS, New-York. It will be completed in about twenty numbers, which are sold at 25 cents each.

Albany Prices Current.

ALBANY, July 15.

FLOUR.—We have had a better demand for flour during the month, and prices of most descriptions can be quoted 12½a25c. higher, induced mainly by an increased shipping demand, and an active speculative movement. Advices from the Western and Southwestern States in reference to the harvest, for all descriptions of grain are very favorable; in Ohio, Indiana, Illinois, Iowa, Michigan and North Missouri our accounts agree in stating that the crops of wheat and corn are exceedingly promising for both quality and quantity. An increased breadth of land has been seeded, and the harvest this year will undoubtedly exceed that of any preceding one—and this comes in the face of low prices. The sales of the month add up 38,000 to 40,000 bls., closing at $3.75a$4 for common Western and inferior State; $4a$4.25 for good State and Michigan, Indiana and Wisconsin; $4.25a$4.31¼ for Ohio; $4.37½a$4.50 for Genesee; $4.50a$4.62½ for extra O.; $4.62½a$4 87½ for fancy Gen. and $5a$5.25 for extra Gen. Corn meal is in steady demand at $1.18¾c. per cwt. in bags. Liverpool dates of July 1st, received by the Franklin, state that the fine weather had caused a complete stagnation in the flour market and sales would have been made, had buyers appeared, at a decline of 2s. per brl. on American, and 1s. per sack on French flour. The receipts

of flour at tide water continue largely in excess of the receipts to the corresponding period last year.

GRAIN.—The sales of wheat during the month aggregate 20,000 bushels, at prices which show a gradually declining market; we quote Genesee 106a112½ for ordinary to prime, Ohio 94a96, and Michigan 98a104c. nommally. Some samples of new Southern wheat were shown on 'Change on 1st. inst.; they were from Petersburgh, Va.; the berry was well filled and plump. Rye has been in limited supply, with sales 6000 bushels, in lots at 70½a72c.

The sales of oats are large; about 70,000 bushels have been taken since our last, at figures which show a decline on previous quotations, owing to the large receipts of Western; we quote 41a42c. for good Western, Canadian, and Canal. The transactions in corn during the month have been large; upwards of 270,000 bushels have been sold; quotations have been somewhat variable, but the market closes full as well as it was a month ago; we quote 54a54½ for sound parcels of Western mixed, and 56 for Yellow round which is in limited supply; there is no round white offering. Heated and damaged parcels which arrive freely, sell at 48a50c. The Liverpool advices to the 1st quote corn a decline of 1s. per quarter, and wheat 2d.a3d. per bushel of 70 lbs.

WHISKEY.—The market has been steadily maintained; sales 700 bls. Ohio and S. P., at 23¼a23¾ for Ohio, and 23¾a24 for S. P.; closing at 23¾a24c. for Ohio and S. P.

PROVISIONS.—The retail demand is steady and quotations are unchanged; we quote new mess pork $15a15.50, do. prime $13. Beef, mess $10a10,50, and $5a6 for prime. Hams, 8¼a10c. for smoked, and 7a7½c. for shoulders; in pickle, hams 7a8c. and shoulders 6a6½c. Lard 9a10c. Butter 12a14c. for new State. Cheese 5a7c.

HOPS.—Some sales of the growth of 1848 and 1849 have been made for brewing at 25c. for the former, and 30c. for the latter.

PLASTER.—Nova Scotia is down to $2.50 with a good supply and sales 700 to 800 tons.

WOOL.—The market here has not opened yet; the only sale we have to notice is 8000 lbs. coarse fleece at 36c.

FEED.—We have but little to notice; the sales are about 30,000 bushels, at 14c. for shorts, 17a24c. for second quality and 100a106ct for middlings. There have been no sales of moment within the last 10 days.

SALT is in fair demand at 106¼ for brls. at 10½ for bags.

Superior Seed Wheat.

A LARGE assortment of the best varieties of Improved Seed Wheat for sale, among which are the Golden Australian, China or Troye, White Flint, Hutchinson's Improved, Soule and Mediterranean.

A. B. ALLEN & CO.,
Aug. 1—1t. 189 and 191 Water street, New-York.

SEED RYE.

RYE of the best winter variety; also a cheaper kind suitable for late fall and early spring pastures.

A. B. ALLEN & CO.,
Aug. 1—1t. 189 and 191 Water street, New-York.

Improved Turnep Seed.

STRAP-LEAVED, Red-top, Flat, Norfolk, Long Tankard, Yellow Stone, Aberdeen, and several other of the most approved kinds of turnep seed, just received fresh from England.

A. B. ALLEN & CO.,
Aug. 1—1t. 189 and 191 Water street, New-York

Mediterranean Wheat.

THE reputation this wheat has obtained for a few years past, has put it beyond doubt, that it is the very best variety for our climate and soil—being so early, it *entirely* escapes the ravages of the Fly. We have now a choice lot on hand, and offer for sale, at the Albany Agricultural Warehouse and Seedstore, 369 & 371 Broadway, Albany.

EMERY & CO.

State Agricultural Warehouse.

THE subscber would respectfully invite the attention of Farmers and Planters to his varied assortment of Agricultural and Horticultural Implements, among which may be found Prouty & Mear's celebrated and highly approved Center Draught Plows; Emery & Co.'s Improved Railroad Horse Power and Thresher, all of which took the first premiums at the late State Agricultural Fair, and are unequalled by any now in use; together with the latest and most improved *Plows, Straw Cutters, Fanning Mills, Corn Shellers, Seed Sowers, Cultivators, Harrows, &c &c.*, which I well sell at as low rates as any similar establishment in the United States.

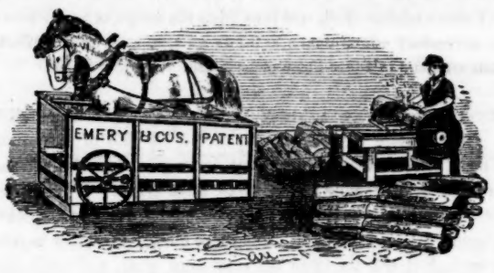
I shall at all times have on hand a full stock of Field and Garden Seeds, Guano, and all other Fertilizers in the market, which may be had on the most reasonable terms.

Persons purchasing articles from me may rely upon their giving satisfaction, as I intend keeping only such as I can fully warrant.

G. H. BARR,
Aug. 1—1t. No. 25 Cliff street, New-York.

Patent Wire Fence

FOR farms and division fences, with Iron posts—price, from $1.50 to $1.75 per rod. This fence has none of the objections urged against long panels of fence, these being only 12 feet each, and rods of one-quarter inch diameter. Also Ornamental Iron Railings, from 30 cents to $2 per foot. EMERY & CO., 369 & 371 Broadway, Albany, N. Y. Aug. 1.



EMERY & CO.'S

New-York State Society's First Premium

RAILROAD HORSE-POWERS.

THE above justly celebrated Powers as now made and sold by the subscribers, are offered the public with the assurance that they are all they are represented—they having been very extensively and thoroughly introduced and tested, side by side, with all the tread powers known, of any note in the country, and been preferred.

The Chairman of the Agricultural Society's Committee on Horse-Powers, in a communication written several months after the awarding of premium to the above Horse-Power, says: "I spent much time at the late State Fair. (Sept. 1850,) at Albany, in examining the various Horse-Powers, viz. Wheeler's, Allen's, Ham's, and Emery & Co.'s, first with the owners and makers, and heard all they could say, and again in their absence—and the result most fully convinced me that yours was the best, and if I wanted one, I would give TWENTY DOLLARS more for yours than any others on the grounds; and as you have won the laurels fairly, it is just that you should recieve a full reward."

He further says—"You know from experience that I have no sort of partiality for your establishment, and as a committee-man of said Society for years, I have decided against you oftener than for you; and if others have a better article than you, I would decide in their favor, if the decision rained your establishment, and vice versa, hurt who it may.

With the testimony of such men as the author of the foregoing, which, together with the changeable gearing, and other important improvements adopted since last season, make it the most Convenient, Durable, Efficient, and Economical Horse-Power now made; and the public may rest assured of being furnished by us with a superior machine.

Having heretofore been obliged to have a large portion of some parts of our work done by contract, we have felt the inconvenience and want of dependance to be placed upon the quality of the materials and wormanship; we have now so extended our facilities as to enable us to make all parts of all our own machines, and can now assure the public that none but the best work and stock will be offered by us.

The Two Horse Power Thresher and Separator is capable, with three or four men, of threshing from 150 to 200 bushels of wheat or rye, and the single one from 60 to 100 bushels, or double that quantity of oats, per day.

The price for Emery & Co.'s one Horse Power....	$80.00	
do do Threshers and Separator,.	35.00	
do Bands, wrench, oiler and extra pieces,....	5.00—	$120.00
do Two Horse Power,.	110.00	
do do Thresher and Separator,.....	35.00	
do Bands, oiler, wrench, &c.....	5.00—	$150.00
Price of Emery's Thresher and Cleaner, with bands, wrenches, &c,.....		$75.00
do Saw Mill, complete for use,.....		35.00
Price of Grant's Fan Mills, adapted for hand or power from,.....		$22.00 to 28.00

Also Wheeler's Rack and Pinion Power, manufactured by ourselves, and warranted equal to any of the kind in use, (or made and sold by any other manufacturer,) which we sell with a full guarantee of the right of using the same in any territory of the United States, for the following prices:

One Horse Power,.....	$75.00
Two Horse Power,.....	100 00

All the above are subject to the warranty of three months use and trial, and if not satisfactory may be returned and full purchase money refunded.

Those wishing to procure EMERY & Co.'s latest Improved Premium Horse Power and Machine, will observe that their *name* is cast on *every link of chain* and *band wheel Hub*—none others are genuine.

For further particulars, prices, &c., see Catalogue of Albany Agricultural Warehouse, furnished gratis. EMERY & CO.

Original and sole Proprietors of the Albany Agricultural Works, Warehouse and Seed Store, Nos. 369 and 371 Broadway Albany, New-York. August, 1851.

ELLWANGER & BARRY,

Mount Hope Garden and Nurseries, Rochester, N. Y.,

WILL publish on first of August, *a new wholesale price Catalogue*, for fall of 1851, which will offer unusual inducements to purchasers of Nursery Stock in large quantities. Every person who intends purchasing in the ensuing fall, will find it to their advantage, (previous to sending their orders elsewhere) to be in possession of one of these catalogues, which will be furnished gratis to all post-paid applications or at the office.

Rochester, N. Y., Aug. 1, 1851—2t.

Australia Golden Wheat.

THE largest and most productive wheat in the world. The subscribers are now prepared to furnish farmers and others, interested in the growth of this splendid and valuable wheat, in large or small quantities, at the lowest market price. This wheat has been cultivated on Long Island for the last two years with perfect success, and yields at least one-third more to the acre than any of the ordinary varieties. Farmers and seedsmen wishing to procure this wheat, will please send in their orders in time as the supply is limited. Specimens of the growth of this wheat can be seen at the store of the subscribers. In addition to the above we have for sale a large stock of all the varieties of Grass, Field and Garden Seeds.

JOHN MAYHER & CO.,
Aug. 1—1t. No. 197 Water street, New-York.

Extensive Sale of Real Estate in Virginia.

ON the 10th day of November, 1851, will be sold to the highest bidder, in Williamsburgh, 2787 acres of land belonging to the estate of the late John Maupin, lying between said city and Jamestown: 350 acres of which are highly improved, also about 100 acres of the richest meadow. The other portion is abundantly studded with valuable oak and pine timber easily accessible by water, a part of which lies on a navigable creek, where is located the brick work of a once valuable manufacturing water mill, to which vessels may float, and which creek empties into James river, one mile distant therefrom. These lands will be sold in tracts to suit purchasers: also other real estate will then and there be sold, embracing most desirable houses and lots in said city and including a new and commodious brick store house and lot. See card published, and address Williamsburgh, Va.

R. H. ARMISTEAD,
Aug. 1—3t. Executor and Com.

HORSE POWERS AND THRESHERS.

THE subscribers solicit the attention of the farming community, to their extensive assortment of unsurpassed Horse Powers and Threshers of all kinds now in use.

1st. The Endless Chain or Railway Power, both for one and two horses, guaranteed to be the best ever made, both for strength, durability, economy and utility, being constructed on scientific principles so as to avoid all friction possible, thereby making them the lightest running power in the United States.

2nd. The circular wrought Iron Power, calculated for one to six horses. A new and well approved article.

3d. Iron Sweep Powers of our own manufacture, for one to four horses, a first rate machine that has always given the best satisfaction.

4th. The Bogardus Power for one to four horses, a very compact machine and adapted to all kinds of work. They are made entirely of iron. In addition to the above, we have several other kinds of well approved powers, together with all the various kinds of under and over shot Threshing Machines ever made. Also the largest and most complete assortment of Agricultural and Horticultural Implements, Field and Garden seeds to be found in the Union, all of which will be sold upon the best terms and at the lowest prices. Persons in want of any of the above articles will find it greatly to their advantage to call on us before purchasing elsewhere.

JOHN MAYHER & CO.,
Aug. 1—tf. No. 197 Water street, New-York.

Chapin's New Portable Cider Mill.

THE demand for these machines, previous to the present improvement, has been even more than sufficient; and an increase is not desired, unless it can be earlier in the season.

All applications for Mills should be made before the first of September, or they will fall among a large number, some of which cannot be supplied in season for operation.

The present form of these machines, both large and small, by last fall's operations, have proved themselves much more practical than before the improvement. They are destined to an extensive patronage. Under ordinary circumstances, but one horse is required to operate or draw the large mill. With the help of two men and a horse, they go into the orchard and turn out from 12 to 16 barrels of cider per day.

PRICE, 125 dollars with waggon wheels and thills—100 dollars without.

The Mills may be delivered without wheels and thills, and be furnished at their place of destination.

Two men may operate one of the hand Mills, and make from 4 to 6 barrels of cider per day. About one barrel is made at each pressing. Price 40 dollars, with an individual right of using.

RAPELJE & Co., Rochester, N. Y.
A. PATCHIN, Westfield, N. Y.
GEORGE C. COOLEY, Canandaigua, N. Y.
H. SPAULDING, Syracuse, N. Y.
Manufacturing Agents.

NATHAN CHAPIN, Patentee and Manufacturer, No. 105 West Water-street, Syracuse, N. Y. Aug. 1, 1851—1t.*

Fruit and Ornamental Trees, &c.

THE subscribers solicit the attention of Nurserymen, Orchardists, and Amateurs, to their present large and fine stock of Nursery articles.

Standard Fruit Trees for Orchards—Thrifty, well grown and handsome, of all the best varieties.

Dwarf Trees for Gardens—The largest stock in the country, and the most complete.

Dwarf Pear Trees—Our collection consists of well known leading varieties, and numbers more than 150,000 saleable trees. The superiority of these, being grown in this country, over imported trees, is well known to every intelligent cultivator. Nothing in fact in this country, can equal our collection of Pear Trees; they can be had from one to four years growth, some of which are now covered with fruit.

Dwarf Apple Trees—We cultivate in large quantities, the best and handsomest varieties of Apples on Doucain and Paradise stocks, for Dwarf and Pyramids, and can furnish them in large quantities from one to two years growth.

Dwarf Cherry Trees—All the leading varieties are cultivated, on Mahaleb stocks, extensively. We can furnish by hundred and thousand, from one to two years growth.

Cherry Currant—The largest variety known. Upwards of 1000 plants on hand.

English Gooseberries—All the best sorts.

Large Fruited Monthly Raspberry, that gives a crop of fine Fruit in the Autumn.

Strawberries—All the best sorts.

Ornamental Shade Trees—Of good size for Streets, Parks, &c., large and well grown.

Choice Trees and Shrubs, for lawns and pleasure grounds, including all the finest new and rare articles recently introduced.

Hardy Evergreen Trees—Norway, Spruce and Balsam Fir, of small size in large quantities, and a moderate supply of large ones, besides nearly *Fifty new and rare Evergreens*, including Deodar Cedar, Cedar of Lebanon, Chili Pine, Cryptomeria or Japan Cedar, Himalayan Spruce, &c. &c.

Roses, Pæonies—A large and complete collection, including the finest novelties.

Phloxes—A collection of upwards of 60 varieties, including 30 new varieties imported last spring.

Dahlias—Upwards of 100 select varieties, including the finest English prize flowers of 1849 and 1850.

The following catalogues, giving full information as regards terms, prices, &c. will be sent gratis, to all who apply by post-paid letters, or at the office:

1st. A general descriptive catalogue.
2d. A wholsale catalogue.
3d. Catalogue of Select Green-House Plants.
4th. A special catalogue of Dahlias and Bedding Plants for 1851

ELLWANGER & BARRY,
Mount Hope Garden and Nurseries, Rochester, N. Y.
August 1, 1851—2t.

Bickford & Hoffman's Grain Drill.

THIS drill is made and sold by the subscribers, at Macedon, Wayne Co., N. Y. Of the large number which they have sold, not one has failed to give satisfaction. Decisive testimonials can be furnished from a great number of our best and most eminent farmers, that this drill is *more perfect as a whole* than any other of the many good ones which have been used in the country.

Since last year, we have added an IRON CASING to the *gear work*, to guard against the possibility of accident; the drill tubes are disposed alternately in parallel rows, sowing the grain in rows seven inches apart, and greatly facilitating the passage of the drill tubes among stones and clods. They sow with perfect evenness, whether on a level or ascending or descending a hill. Every part is made of the very best materials, and with great neatness and durability.

☞ *Of the great number sold, not one has been returned, although each is warranted to sow all kinds of grain with accuracy and with satisfaction to the purchaser.* ☜ Subject to this warrant, we respectfully invite a free and full trial of the merits of this implement.

For an editorial notice and figure of this drill, see the June number of the Cultivator for this year, p. 209.

PRICES—$65 for 7-tube drill; $75 for 9-tube drill, and $85 for 11-tube drill. All orders addressed to the subscribers, at Macedon, Wayne Co., N. Y., thankfully received and promptly attented to, and shipments made at canal or railroad. BICKFORD & HOFFMAN.

Macedon, Aug. 1, 1851—2t.

Prouty & Mears' Celebrated Centre Draught Plows.

A LARGE assortment can be found at the State Agricultural Warehouse, No. 25 Cliff street, New-York.

June 1—4t. G. H. BARR.

MANURES.

PERUVIAN GUANO at 2½ cents per lb.
Bone Dust, Sawings, Shavings, and Crushed, at $2.25 per bbl.
Bone Black, or Burnt Bones, at $3 per hogshead.
Bone Waste, or Bone Manure, at 1½ cents per lb.
Sugar House Scum, or Bullock's Blood, at $2,50 per hogshead.
Sulphate of Soda at 1 cents per lb; packages included at the above prices. For sale at the State Agricultural Warehouse

June 1—4t. G. H. BARR, No. 25 Cliff-street, New-York.

Colman's European Agriculture.

EUROPEAN AGRICULTURE, from personal observation, by HENRY COLMAN, of Massachusetts. Two large octavo vols Price, when neatly bound, the same as published in Nos., $5. For sale at the office of THE CULTIVATOR.

Dixon and Kerr's Poultry Book.

JUST Published, a treatise on the history and Management of Ornamental and Domestic Poultry. By Rev. Edmund Saul Dixon, A. M., with large additions, by J. J. Kerr, M. D. Illustrated with sixty-five portraits, from nature, engraved expressly for this work.

CONTENTS.

The Domestic Fowl.
The Rearing and Management of Fowls.
Eggs—their Color, Form, and Sex.
Eggs—their Preservation for Culinary Purposes.
Eggs—their Preservation for Incubation.
Varieties of the Shanghae Fowl.
The Cochin China Fowl.
Burnham's Importation of Cochin China Fowls.
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July 1—tf.

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Rochester, Aug. 1, 1851—2t. Local Secretary.

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